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# FINANCIAL TIMES

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Monday October 10 1977

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## NEWS SUMMARY

### GENERAL

#### Provos murder UDR clerk

The Provisional IRA claimed responsibility for the murder in Co. Armagh of 24-year-old Private Margaret Anne Heast, a part-time clerk who worked for the Ulster Defence Regiment.

Private Heast was shot in bed in a caravans in the grounds of her parents' cottage at Tynan, near Middletown, where she lived with her three-year-old daughter, her mother, who later fled across the border into the Irish Republic, fired at a partition behind which the child was screaming.

Three Appeal Court judges will move to the Old Bailey today for security reasons to hear an appeal against conviction by three Irishmen and a London woman jailed for life in 1975 for the Guildford and Woolwich public house murder bombings.

Other Ulster news, page 8

#### Cosmonauts set for rendezvous

The Soviet Union launched a two-man Soyuz 25 mission to join the Salyut-6 orbiting station, probably within two days.

Mission Commander Vladimir Kovalyov and Flight Engineer Valery Ryumin blasted off just after dawn from the same launching pad in Central Asia as the first Sputnik 20 years ago. Unconfirmed reports suggest that the cosmonauts may take a space walk.

#### E. Berlin clash

Some 600 East Berlin youths chanted: "Russians, get out!" in clashes with police when eight people were trapped after falling into a ventilation shaft during celebrations marking East Germany's 25th anniversary.

#### A wee dram

Only a few pubs—mainly in the Striding area—were open when for the first time in 100 years Scottish hares were allowed to serve drinks to Sunday customers. Many pubs were shut because of a dispute over Sunday pay with the Transport and General Workers' Union while some licensing Boards will not hear applications until later this month.

#### Basque killers

ETA, the militant Basque movement dedicated to total independence of its homeland from Spain, has claimed responsibility for Saturday's assassination in Guernica of Sr Augusto Urrutia, the Vizeya provincial governor, and his two Civil Guard escorts.

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#### Bank error

The Mellon Bank of Pittsburgh has filed a criminal complaint in Manila against a Filipino couple to whom it transferred \$100,000 of which has been withdrawn. It should have paid them \$1,000, but made a clerical error.

#### Britons blamed

Amid speculation that Mr. Malcolm Fraser, Australia's Prime Minister, may call a general election before the end of the year, the National Country Party has renewed attacks on British shop stewards and Communist union leaders for the current state of strikes.

Page 4

#### Schoolboys' duel

A 14-year-old public schoolboy was "satisfactory" in hospital after receiving stomach wounds, said to have been caused by a sharp implement, in a duel over a girl. His rival, a fellow boarder at St. Joseph's College, Ipswich, has been interviewed by police.

#### Briefly...

Pope Paul canonised Lebanon's first saint, Father Charbel Makhlouf, who died in 1898.

Turin: The River Po is close to bursting its banks as the flood toll in N.W. Italy reached 14 dead.

Jordan claimed that Iraq had hanged a Jordanian student.

Motor-racing: Jody Scheckter won the Canadian Grand Prix in a Ford.

### BUSINESS

#### Move to give small concerns tax aid

TAX CHANGES to help small businesses—possibly to be introduced in next spring's budget—will be recommended soon by Mr. Harold Lever, Chancellor of the Duchy of Lancaster.

Mr. Lever, who has been asked by the Prime Minister to investigate the problems of small businesses, will make the recommendation in the first part of a two-stage report.

Mr. Lever to-day starts an intensive round of meetings with industrialists, civil servants and other experts to try to produce some rapid solutions to be contained in the first-stage report. He will then be a longer inquiry stretching well into next year.

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#### LOANS to small businesses

LOANS to small businesses should be guaranteed by the Government to encourage private investment, according to the Association of Independent Businesses in a submission to be made to the Wilson committee on City Finance.

Page 8

#### CHANCELLOR, Mr. Denis Healey, will deliver an optimistic report on Britain's economic opportunities at a meeting of the National Economic Development Council to-day.

But he will also warn that the future depends on an increase in investment and restraint on pay.

Page 2

#### LUCAS INDUSTRIES, which has been conducting a strong sales campaign in Japan, is making efforts to convince the Japanese that labour troubles will not prevent it from meeting orders for motor components.

Page 5

#### FORD Cortina regained its position as the best-selling car in Britain last month, followed by the Ford Escort and Leyland's Marina.

Page 6

#### ITALIAN Government has dropped plans to make a big cut in Government spending through curbing pension pay-outs, and will try to agree on alternative spending cuts to meet IMF requirements.

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#### DISPUTE at the British Sugar Corporation could lead to a sugar shortage next year, according to a union official.

Page 7

#### IMPORT CONTROLS are not the way to deal with Britain's economic problems, says a Fabian Society pamphlet.

The author, Vincent Cable, says subsidies to help industry adapt might be better than tariffs or quotas.

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#### ARCHITECTS' incomes rose by only about 6 per cent in the year to last June, while price inflation was over 18 per cent, according to the Royal Institute of British Architects.

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## World steel war warning over 'rush to protectionism'

BY ROY HODSON: ROME, Oct. 9

A trade war in steel is threatened by the rush to protectionism in the face of the growing world steel crisis, representatives of the major steel manufacturers were told here to-day.

The warning, the most serious yet in the course of the industry's current difficulties, came from Vicomte de la Motte, Director-General of the EEC Commission for Industry. He delivered it to an audience which included the heads of nearly all the biggest Japanese, American and European steel companies at a European lunch before the start of tomorrow's annual conference of the International Iron and Steel Institute, which embraces most of the major steel manufacturers outside the Communist bloc.

His words were directed primarily against U.S. manufacturers, which have filed anti-dumping suits against some European exporters to the U.S. at a value of more than £1bn. a year. Japanese exports to the U.S. are running at about the same level.

### Full report

Among U.S. manufacturers involved in the complaints is the National Steel Corporation of Pittsburgh, whose chairman, Mr. George A. Stinson, is the last of the U.S. steel executives to return to America next week. He will be waiting for him a full report on alleged dumping by British Steel, other EEC steel makers, and Japanese producers.

Mr. Stinson said to-day: "Our general impression is that steel is being sold in the U.S. at less than average costs of production in Europe and Japan."

Other American steel companies are said to be near the point of taking action against imports by filing charges.

Countervailing suits being considered by National Steel

## Tory conference to focus on economic strategy

BY PHILIP RAWSTORNE

THE CONSERVATIVE Party conference will be focused this week on the party's economic strategy—in particular, the Eshon programme of cuts in direct taxes—in a bid to rally electoral support.

Party leaders, responding to Labour's improved prospects and the approaching general election, intend to spotlight their tax-cutting policies in key debates on the economy and industry which dominate the two opening days.

At the same time, attempts will be made during the first day's debate in Blackpool to mount a counter-attack on the front of industrial relations policy.

Sir Geoffrey Howe, the party's economic spokesman, will be given the key role of presenting the party's new taxation strategy on Wednesday.

Its main feature, published at the weekend, was an "emergency package" of income-tax reductions.

The party's document, *The Right Approach to the Economy*, says: "We shall reduce the basic rate of income-tax. We shall raise the thresholds. We shall reduce the higher tax bands. We shall reduce the higher rates."

The programme could amount to more than £3bn. and would be paid for by further reductions in public spending and possibly higher indirect taxes.

Mr. Reg Prentice, the former Labour Cabinet Minister who defected to the Conservatives at the week-end, said yesterday that he would be willing to serve in a future Tory Cabinet.

Details and Tory policy document, Page 8. Editorial Comment, Page 14

## Doubts over nuclear reactor's export potential for U.K.

BY DAVID FISHLOCK, SCIENCE EDITOR

THE U.S.-designed pressurised water reactor has little or no export potential for Britain during the 1980s, according to a confidential report by the National Nuclear Corporation, Britain's reactor-making consortium.

This is in sharp contrast to the case made publicly by the corporation to try to convince the Government that in addition to building more advanced gas-cooled reactors (AGRs), the pressurised water reactor should be built under licence for its export potential.

The Government is believed to be close to making a decision on reactor choice, although it is still awaiting the conclusions of the electricity supply industry, which has been analysing the report.

The failure to make a convincing case for pressurised water reactors (PWRs), exports in clear from the main body of the thermal reactor assessment, a report whose full contents have been kept secret on grounds of commercial confidentiality although a summary was published in the summer.

The full National Nuclear Corporation report, as submitted to the Mr. Anthony Wedgwood Benn, Secretary for Energy, makes it plain that even if Britain were to capture the entire export market represented by what is seen as its four best reactor export markets—Australia, New Zealand, Ireland and Iran—sales would amount to no more than a single 660 MW reactor a year throughout the 1980s.

The corporation report was requested by Mr. Benn after Sir John Hill, his chief nuclear adviser, had warned him that the Government's 1974 choice of reactor—the steam-generating heavy water reactor—could prove a mistake because of lower electricity demand forecasts and rising engineering costs.

The report advises the Government to order at least one more AGR but simultaneously to introduce the American PWR in the summer because of its export potential.

The dual proposal was a compromise between conflicting demands, including the nuclear industry's urgent need of new design work which could be satisfied only by the AGR, and its hopes of eventually building up an export business.

According to the summary of the report, published in the Department of Energy late in July, the corporation had "ascertained no advantages in the AGR system which are so certain that they would justify the rejection of the opportunities for export which the PWR has and the AGR has not."

But the report prepared by the Nuclear Power Company, the design and construction arm of the corporation, is pessimistic about exports.

It states bluntly that, because of cutbacks in domestic requirements from the main reactor exporters, there will be surplus PWR capacity and severe competition throughout the world.

The report says that, altogether, its total export expectation in the 1980s "could lie between zero and two reactors per year."

It concludes that Britain's best chance of exporting reactors would lie with countries sharing the same language or where it has an established supply position or where political or commercial factors predisposed the market to British favour.

The report does not comment on the possibility that new curbs on the exporting of nuclear technology contemplated by the American Government include the possibility that it should be

Continued on Back Page

## Hostile EEC reception for Owen

By Guy de Junquieres, Common Market Correspondent

VILLERS-LE-TEMPLE, Oct. 9

THE BRITISH Government found itself at the centre of a new EEC row this week when a number of its Common Market partners expressed strong criticism and concern at the recent proposals put forward by Mr. James Callaghan, for reforms aimed at turning the community into a more loosely-knit body.

Dr. David Owen, the Foreign Secretary, who was on his way to talks in Moscow, faced anxious and sometimes hostile questioning during an informal meeting of Foreign Ministers of the Nine at Villers-Le-Temple, near Brussels, as his EEC counterparts pressed him for clarification of the Government's longer-term intentions towards the Community.

A particularly tough attitude was taken by Herr Hans-Dietrich Genscher of West Germany. He demanded to know whether the Government planned to translate into policy the proposals contained in the report on EEC membership drawn up by the National Executive Committee of the Labour Party and approved by last week's party conference.

Herr Genscher is understood to have remarked with deliberate sarcasm that it was "very nice" of Britain to have decided to stay in the Common Market. But he emphasised the future development of the Community along lines quite different from those suggested by Mr. Callaghan in his letter to the NEC.

The West German Government was keen to see further integration in the EEC and was not prepared to abandon the ultimate objective of European union.

He demanded that the admission of new members like Greece, Portugal and Spain should strengthen the Community—not weaken it as Mr. Callaghan appeared to want.

Dr. Owen is believed to have had little to add about the Government's plans for its EEC policies, though he was clearly angered that word of the other Ministers' criticisms had leaked out while the supposedly private talks were going on here. At the end of the meeting he avoided waiting journalists and walked straight to an official helicopter.

Mr. Roy Jenkins, President of the EEC Commission, attended the meeting but is said not to have joined in the discussion of the Callaghan proposals. But he is undoubtedly gratified to have seen the aim of further European integration, which he has pledged himself to promote, defended so staunchly by Herr Genscher and others.

Much of this week-end's discussions focused on how the EEC should adapt to the prospect of a more loosely-knit body.

Continued on Back Page

## PAY PROBLEM FOR MINISTERS

## £2,000 may be urged for State chiefs

BY JOHN ELLIOTT, INDUSTRIAL EDITOR

PAY RISES ranging up to more than £2,000 a year are likely to be recommended later this year by the review body interpreting the rise for chairmen of nationalised industries and other top paid public servants by the Boyle Review Body on Top Salaries.

A report is now being prepared for the Government on the rise by the review body interpreting the present pay policy of a 10 per cent overall limit for rises in earnings. Its proposals are likely to raise serious political problems for the Government.

On the one hand Ministers will be worried about the impact of the size of the rises on other groups of workers' attitudes to wage restraint. But at the same time the Government will come under pressure to allow the rise to be paid, especially in the nationalised industries where pay restraint in recent years has caused serious anomalies and hindered the recruitment of top personnel.

Applying the 10 per cent earnings limit direct to all the 1,630 people affected would produce rises ranging up to £2,500 but it seems unlikely that Lord Boyle, the chairman of the review body, and his colleagues will decide to allocate the money in such a way.

They seem more likely to take up the point made in the Government's July White Paper on pay restraint about sorting out the anomalies among recommendations for these other groups arising more or less at the top of the social hierarchy, for example, the salaries of most Whitehall permanent secretaries went up from £16,350 to £18,675 and that of a field marshal from £16,350 to £19,675.

But the second stage of the review, which will consider the anomalies among recommendations for these other groups arising more or less at the top of the social hierarchy, for example, the salaries of most Whitehall permanent secretaries went up from £16,350 to £18,675 and that of a field marshal from £16,350 to £19,675.

Thus, there are two main areas in which the Boyle report is likely to take into account the people in the nationalised industries who have had, virtually nothing since 1974, and the senior civil servants, armed forces officers and judges who lost the second half of their rises.

Last month, the Common Expenditure Committee suggested in a report on the Civil Service that permanent secretaries did not earn enough when it pointed out that their £18,675 salary was considerably less than the £23,000 to £45,000 earned in 1976 by chief executives of companies with between 5,000 and 50,000 employees.

"Like other people, top civil servants should be paid the rate for the job and the Top Salaries Review Body should compare them with top executives in other organisations to determine what they are. It should not cut down on the levels it believes fair but leave that to government to do if they feel it necessary," said the committee.

The Government refused to implement the nationalised industry pay rises urged by the Boyle Review.

### Delayed

But any Government decision may be left till next year because the main trade union-negotiated civil servants' pay rises are not due until April.

Some 120 chairmen and board members of nationalised industries missed out on substantial pay rises awarded in 1976 to the other 1,500 members of the higher Civil Service, armed forces and judiciary following the last Boyle report.

The Government refused to implement the nationalised industry pay rises urged by the Boyle Review.

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LOMBARD

# Pursuit of the EMU

BY GUY de JONQUIERES

THE CEMETERY of disapproved ideas for advancing European integration is packed with crosses marking the demise of successive proposals for creating an autonomous monetary union. Two-and-a-half years ago the Marjolin Committee reported despairingly that "Europe is no nearer to economic and monetary union than it was five years ago. In fact, it has been backsliding." Little has happened since then to suggest that most governments are any nearer to-day to arrive purposefully towards this exalted goal. Less than a year ago EEC leaders finally abandoned as unrealistic their 1980 deadline for attaining EMU, along with much more modest proposals for controlled floating of non-sterile currencies advanced a few months before by the Dutch Finance Minister, Mr. Willem Duisenberg. Meanwhile the snake itself, the nucleus of an EEC currency bloc, has steadily dwindled.

The recent disclosures that Mr. Roy Jenkins, president of the EEC Commission, has decided to make a good deal of political capital on plans for monetary union is therefore somewhat startling. All the more so because he has cast his proposals in a form so uncompromising that even as faithful an ally as M. Francois-Xavier Ortoli, the Economics Minister, considers them too ambitious.

The Jenkins plan aims to establish a common EEC currency to replace national currencies, backed by a central monetary authority which would take over a number of the functions of national treasuries and central banks. An integral element is a substantial increase in Community spending to permit a more effective transfer of resources from richer to poorer regions of the EEC than has occurred so far.

It is claimed that the economic benefits would include greater freedom from exchange rate pressures in weaker economies, a sharp reduction in inflationary expectations and a general boost to business confidence. Mr. Jenkins believes also that real progress can be made to correct regional imbalances—essential to a durable monetary union—by a transfer of funds at a lower cost than many had imagined. The recent MacDougall Report estimated that income disparities in the Nine could be narrowed by 40 per cent if the EEC budget were raised to around \$53bn. That would be three times this year's budget, but still under 2 per cent of the

EEC's gross domestic product.

At least as important, however, are the political arguments. Mr. Jenkins is convinced that the Community is rapidly approaching a crossroads: faced with the prospective membership applications of Greece, Portugal and Spain, it must decide whether to continue to drift into an ever looser association of states or to make a conscious effort to achieve the grand supra-national design envisaged by the EEC's founders 30 years ago. By rehabilitating the goal of EMU, he is deliberately trying to shock governments into recognising the choice before them and acting on it before it is too late.

But as he misjudged the political winds? In Britain, the very mention of EMU, with its overtones of diminished national sovereignty, was apt to produce a strong gut reaction among anti-market long before Mr. Callaghan's recent declaration that his government is actively seeking just the sort of diffuse Community which Mr. Jenkins favours. In France, President Giscard d'Estaing and Mr. Raymond Barre—himself author of an ECU plan—remain intellectually attached to the ideal. But can they afford to support Mr. Jenkins' version during a difficult election campaign which has rained Gaullists and Communists against an increase in supra-nationalism?

## Some virtue

Bonn could perhaps see some virtue in a common currency scheme which would stabilise the D-Mark and preserve German export competitiveness. But how far will the finance ministry or the Bundesbank be ready to surrender monetary authority to the EEC or to foot the bill for regional transfer payments? Germany has long been reticent about stepping up its financial contribution to a nine-member EEC: it has yet to show that it is any ready to shoulder the even bigger costs that will have to be met if three new, poorer, members are to be properly integrated into the Community.

There is reason to think that the Jenkins proposals were designed to create a dramatic effect. He is certainly aware that his commission has produced a number of original ideas in the past nine months and understands that his first big initiative to start people talking. But radical proposals that aim deliberately to provoke are rarely well-suited as a blueprint for a major policy decision of the kind which Mr. Jenkins says he wants.

THE WEEK IN THE COURTS

# Pointless to change the label

BY JUSTINIAN

TO-DAY the House of Lords (doubtless impervious to its threatened demise at the hands of a future Labour administration) will be considering the vexed question of accountability for tax deducted from interest payments. The payer of yearly interest may deduct income-tax at the standard rate and may retain the tax deducted, provided the interest is "payable wholly out of profits or gains brought into charge to tax."

Twelve years ago, the House of Lords decided by a majority that interest attributed to capital involved payment to the Revenue of tax deducted from the interest payments, and did not allow retention of the tax by the taxpayer. The present appeal seeks to have that earlier decision reversed.

Last December, Mr. Justice Templeman followed the earlier decision, but by the leap-frogging device, which allows litigants in limited cases to bypass the Court of Appeal, the challenge is being renewed before the final court of appeal. In these days of inflation, even though reduced in recent months, the reversal of the 1966 decision would have far-reaching effects for taxpayers.

The problem stems from the collection of tax at the source. Income by way of interest, annuities and other annual payments are subject to the system by which tax at the standard rate is deducted by the payer at the time when he makes the annual or other payment, and collected from him by the Revenue. The tax laws distinguish between payments made out of profits or gains brought into charge to tax, and payments not so made. The question whether the payments fall into one or other of the categories is of vital importance to the payer, inasmuch as this determines his title to the sums deducted.

Under the former he retains such sums; in the latter he must account to the Revenue.

The general rule that has been evolved is that you look at the interest payments for the year;

look at the assessed profits for the same year (the actual profits for the previous year); compare the two and, if the latter exceeds the former, the interest deducted may be retained by the taxpayer in the absence of the Chancery Lane case established that there are special circumstances whereby the taxpayer loses the right to compare the interest payments with his assessed profits, if he has made a decision to attribute the payments to capital account, such decision having produced practical results (including an improvement in the taxpayer's profit and loss account) inconsistent with allocation to revenue.

In that case, the taxpayer company had borrowed large sums on mortgage to rebuild its safe deposit premises in Chancery Lane which had been damaged in the war. Its accountants advised the company to treat part of the interest paid on the borrowed money as attributable to capital expenditure. So in the company accounts issued to shareholders for the relevant years, part of the interest on the borrowed money was debited against its profit and loss account, in the usual way, and part to capital account. This meant that the profit and loss account was not as diminished as it would have been had the whole of the interest been debited to that account.

## Deliberate

This deliberate decision to attribute part of the interest to capital and not to the debit of the profit and loss account was the sole foundation of the Revenue's case for claiming the tax. And the Revenue's case was upheld. By the free choice of attributing part of the interest to capital, with some practical effect, the company was precluded subsequently from making an inconsistent attribution, and could not treat a payment actually made out of capital as not actually made out of income. The company thus made itself sensible to pay over the tax to the Revenue.

In the *Fitzleat Estates* case,

the taxpayer company is a property company. Fifty per cent of its shares are owned by a property holding company, Bernard Sunley Investment Trust. In 1959 and 1960 the taxpayer company purchased properties for development, and to do so borrowed money from a bank and from its holding company. Thus it incurred interest charges on the loans. For two accounting years the income was insufficient to meet those charges in full. In its profit and loss accounts the deficiencies were reduced by the transfer of part of the interest charges outstanding to the cost of the properties being developed. The total amount of the sum transferred was £30,060. Thereafter the income increased, enabling the company to meet current interest charges and also to discharge the arrears of the two previous accounting years. By 1966 it had discharged all interest liabilities and declared a dividend of £34,500.

When the company claimed that it was entitled to deduct income tax from the interest payments in respect of the two accounting years, the Revenue declined to agree and assessed the company to tax. By transferring the deficiencies to interest charges to the cost of the properties, the company effected to relieve its income of the burden of the unpaid interest, and by doing so charged the £30,060 to capital account. If so, it had been correctly assessed to tax.

Mr. Justice Templeman loyally followed the *Chancery Lane* case. The taxpayer had sought to justify capitalisation of interest by pointing to a capital gain, but could not pretend that they were charging interest to revenue just because there was an unrealised capital profit equal to the interest and available to be transferred to revenue. "It is not possible," Mr. Justice Templeman said, "to substitute a claim for a refund by changing the label on the bottle."

*Fitzleat Estates Ltd. v. Cherry (Incorporated in Taxes)* (1977) 1 WLR 538.

*Chancery Lane Safe Deposit and Office Co. Ltd. v. Inland Revenue Commissioners* (1968) 1 A.C. 85.

# Norwich teamwork tells

UNLIKE SOME of his colleagues, John Bond, the out-spoken and often controversial Norwich manager, is not solely interested in the acquisition of points. He also cares passionately about football and how it is played.

On Saturday at Carrow Road, where his team defeated Wolverhampton Wanderers 3-1, he had reason to be well satisfied.

The match positively bubbled with effort, excitement and entertainment. It was fun to watch and good to play.

If Norwich had possessed a marksman up front to capitalise on the numerous opportunities they created, the issue would have been settled in the first half, when fast time moves repeatedly through wipers' uncertain defence.

As it was, having none further ahead after the interval through a second goal from Peters, they allowed the visitors to come back into the game, reduce their arrears and go close to snatching an equaliser they did not deserve.

The Norwich success stemmed from teamwork, with the players

header from a right-wing cross decline, and he might well be able to do the trick.

Wolves are an attractive side who were too good for a Second Division side, and a back last season, with the special brand of attacking football, Richards, Hibbert and Sotherton are talented enough to score goals in any company, as Carr is a quality, old-style inside forward.

Their weakness is a defence system which needs to be strengthened up considerably if the side is to re-establish themselves in the First Division.

Brookshaw, their new-look keeper, should prove an asset. He brought off three saves from close range.

At the moment, they have a look of a club destined to sink in the lower half of the table.

JAMES FRENCH

## Forest flattery

NOTTINGHAM FOREST stay in the first half-hour with a brilliant passing move, but in the shooting power to come superiority into control.

Brooking heads a wealth of talent, but the side is a temporary phenomenon. Mr. Brian Clough has produced a team of test, discipline, and power—though, on Saturday, most of the latter quality was displayed in defence, for West Ham goalkeeper Day was not overworked.

It is just a bit of polish, and, on the face of it, seems surprising that Scotland's Gemmill, their recent buy from Derby, should merely have been a substitute.

Yet there is some sense. Gemmill will add new dimensions to Forest, and surely switches in style need to be worked in gradually.

In the event, Gemmill came on for the injured Bowyer after one minute of the second half. The match became rather moribund, and Forest and Gemmill must have benefited from a further period of acclimatisation. West Ham remain an enigma.

JAMES FRENCH

## SOCCER

BY TREVOR BAILEY

forever coming to the assistance of a colleague in trouble or running into an unmarked space. Though the unfortunate Gibbins failed to finish effectively, he never stopped trying.

However, Norwich did owe a debt to Martin Peters, their former international. He turned in a performance as the midfielder in the half-back line which could scarcely have been bettered.

His passes were accurate and sometimes inspired. He knew when to hold and when to release the ball at the right time. His sense of positioning was outstanding, invariably in the right place at the right time.

Peters popped into the area to score the first goal with a fine

# Gloucestershire pack decisive

DEVON DUMFRIED every-one in the first ten minutes of their match against Gloucestershire, but still managing to be the best forward.

Whereas Devon's rear five forwards gave their team the chances it was the ensemble of Gloucestershire's tight forwards that produced the ultimate pressure. Reed took four strikes against the head, two of them vital, one in pressing pressure and the

speed. Rollitt, rapturously received, the Kingsholm crowd was in fine fettle taking the short cuts of experience and age but still managing to be the best forward.

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## WORLD TRADE NEWS

### South Africa 'evading curbs' on steel by sales through Israel

BY OUR OWN CORRESPONDENT

A MEMBER of a visiting Israeli trade mission has disclosed that South African steel exporters are finding a way around EEC import restrictions by routing a sizeable portion of their exports via Israel.

According to Dr. Tamir Agmon, Professor of International Finance at Tel Aviv University, semi-processed iron and steel from South Africa is being fabricated at the Isralit plant south of Tel Aviv, which is a joint venture of Koor Metal Industries of Israel and the South African

Iron and Steel Corporation (ISCOR).

The fabricated metal is then sold to Israeli companies which process it into a variety of products, such as electronic equipment, household goods, and solar heating units. These articles are then shipped to EEC and U.S. markets as Israeli-made products.

Dr. Agmon's remarks are borne out by the sharp increase in South African iron and steel exports to Israel in recent years. Foreign base metal sales—mostly iron and

JOHANNESBURG, Oct. 9.

steel—have soared from R1.2m. in 1970 to more than R17m. in 1975 and R21.2m. last year.

Exports in the first five months of 1977 amounted to R5.2m. Last year these items accounted for about two-thirds of South Africa's total exports to Israel.

ISCOR however, has denied using Israel as a conduit for marketing its steel in the U.S. and Western Europe. The corporation claims its steel exports to Israel are destined to the local market only.

#### Contracts

### Aveling-Barford expansion

INTER-national, the recently formed exporting arm of the Leyland Special Products construction equipment division, is to spend more than £1.2m. on facilities to strengthen and develop its operations in Australia, Canada, the Middle East and South-East Asia.

Much of the investment is being spent by Aveling-Barford Australia Pty. Some £750,000 has been allocated for a new headquarters and a 43,000-sq-ft factory at Revesby, Sydney. Another £250,000 will go on new workshops at the Queensland branch in Brisbane and in Hobart, Tasmania. £72,000 will be spent on a sales and service facility in Canada.

Malaysian authorities have placed an order with two French shipyards for two tankers each capable of hauling 4,800 cubic feet of liquefied natural gas. The ships, to cost the equivalent of \$120m. each, are to be delivered in 1980 and 1981 and will be used to carry Malaysian gas to Japan.

A series of discussions with the Ministry of Warsaw and their clients, Poland's Ursus tractor organisation, has resulted in agreements for Giddings and Lewis-Fraser to supply to the Ursus factory, machine tools totalling £918,500 in value. Ursus plant is being extended and re-equipped under an industrial co-operation agreement with Massey-Ferguson-Perkins for the production in Poland of British-designed tractors and engines.

A £13m. contract to build a 50-mile road including the construction of three bridges between Zaria and Pambagu in Nigeria has been awarded to International contractor, the Sievin Group. Work begins in November 1977 and will be completed in 1979.

Spie-Capag, a subsidiary of Empate Schneider Group member Spie Batignolles, said it signed a contract worth over Frs.200m. with the Yugoslavian company Jugoslavenski Naftovod for the construction of an oil pipeline.

General Motors Canada is selling \$9m. of off-highway vehicles and parts to Hamersley Holdings, of Melbourne, Australia, for the Paraburdoo iron ore mine, supported by a \$7.2m. loan arranged by the Federal Export Development Corporation. The Bank of Nova Scotia is participating in the loan.

### Recession hits hard in Austria

BY PAUL LENDVAY, IN VIENNA

FACED with a record trade deficit which reached an all-time record of Sch.52.5bn. last year, in anticipation of the expiration date of the accelerated depreciation allowances for estate cars, imports of cars were up by 22 per cent.

As Austria has no motor industry of its own, the booming consumer demand for cars, fuelled by ample liquidity, was reflected in the growing drain on foreign exchange reserves. This is the background to the controversial project of launching an Austro-Porsche plant based on know-how provided by the German company, to the forthcoming deal with Renault which is setting up a plant for manufacturing components and other negotiations with foreign motor exporters accounting for 41.5 per cent of the imports total.

British car exporters will of course also be adversely affected by the luxury tax. Last year the U.K. sold 9,000 cars at a value of £10.25m. in Austria. For the January-July period the figure was 5,164 units worth £4.9m.

Cars however are only part of the problem. The fuel bill also trebled between 1970-75 from Sch.18m. to Sch.24m. last year. With regard to food, consumer durables, clothing and other goods, the Austrians, in the wake of their own economic miracle,

have become choosier, often preferring imported goods to Austrian-made products.

Thus in the first half of 1977 for example, the imports of food were Sch.5bn. higher than food exports. The foreign trade balance in such manufactures as footwear, clothing and furniture recorded during the same period a deficit of Sch.4bn.

Paradoxically, the monetary policy which pegged the exchange rate of the Schilling to that of the Deutschmark has helped the influx of imports and hampered the Austrian sales which have been hit by the rising unit costs of domestic industry and the period.

Promotion of exports of technology-intensive products, curbs on imports and restraint in wage policy, coupled with the reduction of purchase spending, can provide the only realistic basis for gradually and slowly reducing the balance of payments deficit.

Despite a 57 per cent inflation rate and an enviable labour situation, a small landlocked country such as Austria can not indefinitely be isolated from the world-wide recession and the result of massive unemployment and sluggish growth in Germany, which alone accounts for 25 per cent of Austria's exports and other three-quarters of Austria's current tourist traffic.

### Lucas reassures Japanese

BY TERRY DODSWORTH

LUCAS INDUSTRIES, the Midlands components group which has been conducting an aggressive sales campaign in Japan, is now faced with the embarrassing problem of convincing the Japanese of its ability to supply following its damaging 11-week toolmakers' strike.

There is no doubt that the strike, which ended last month, has undermined the prospects of British companies hoping to capture new export markets in Japan.

Lucas has been particularly vigorous in this marketing drive and is sending a 35-man team out to Tokyo for the Motor Show later this month. But partly because of its big sales effort, the company's industrial troubles have attracted a disproportionate amount of attention in Japan.

The problems affect a whole group of British motor component companies which for the past six months have been working hard to convince the Japanese that they can supply a good quality product at the right price and on time.

Following a visit made by the Japanese in the British companies in March, hopes have grown that Britain could increase its present component exports in

Japan from £5m. a year to between £80m. and £90m.

This would go some way towards halving the payments gap caused by Japan's export of cars to Britain, now running at a value of about £200m. a year.

According to executives in Japan, the Japanese trade delegation was unimpressed by the technology and expertise they saw in the British component companies. But they have also made it clear that U.K. companies will have to overcome their supply problems to be accepted by Japanese vehicle manufacturers, which frequently hold only a few hours' stock.

Lucas and the other exhibitors at the Tokyo Show, who include GKN, Automotive Engineering, Smiths Industries and Wilmot Breeden, will therefore have to dispel the poor impression caused by the toolmakers' dispute. One way of doing this, particularly in the case of Lucas, will be to show that the company concerned has several alternative supply sources around the world from which it can divert stocks.

Lucas is already talking seriously on this issue to Mitsubishi Motors, the manufacturer of Colt cars, who have had an

### U.S. market share increased

The dominance of Japanese manufacturers in the U.S. market for imported cars is again illustrated by the detailed figures for the first nine months of the year.

While most of the European makers, including Volkswagen, Leyland, Fiat, Volvo and Mercedes-Benz, have increased their sales this year, the gains are modest compared with those achieved by the Japanese suppliers.

Some of the most spectacular increases have come from the less well-known models such as Subaru, Colt and Arrow.

#### U.S. CAR IMPORTS

January to September

	1977	1976
Toyota	394,222	258,845
Datsun	303,975	208,826
Volkswagen*	225,510	180,532
Honda	192,183	105,219
Subaru	59,099	35,569
Colt	57,828	36,407
Leyland	56,851	51,203
Fiat	51,176	46,087
Arrow	42,188	20,769
Volvo	35,360	32,335

\* Including Audi

### Bosphorus bridge tender

By David Tonge

ISTANBUL, Oct. 9.

TENDERS FOR the construction of the second Bosphorus bridge will be issued by March 1978, according to the Istanbul Directorate of the Highways Department, N. Rıdvan Dedeoğlu.

The bridge, together with a 4.5-mile railway tunnel under the Bosphorus and a seven-mile underground, form a complex of projects designed to break the growing international and local traffic bottleneck at Istanbul.

Construction of the second bridge is planned to start next year according to Mr. Dedeoğlu. Freeman Fox and Partners of London, the firm which designed the first Bosphorus bridge, is doing the engineering design of the 1,500-metre bridge and four miles of approach roads.

The bridge is expected to cost £2m. and at the present rate of inflation to pay for itself within year, so the Turks do not need financing difficulties. A further 17 miles of motorways connecting the bridge to Turkey's road system is being designed by the Highways Department.

These are expected to cost over £30m. when land acquisition costs are included. Construction works for the first section are scheduled to start in April, according to Mr. Dedeoğlu.

The railway tunnel under the Bosphorus is to be twin-track (10) without lanes for vehicles. It is to run five miles from Beşiktaş on the European side to the Haydarpaşa railway terminal on the Asian side, according to present plans. It is to be on the seabed which is up to 100 metres deep.

### Indian alumina deal

BY OUR OWN CORRESPONDENT

NEW DELHI, Oct. 9.

A MAJOR deal between India and Iran envisages the supply by the Indian Aluminium Company of 140,000 tonnes of alumina for expanding output at Iran's aluminium smelter at Arak.

from 50,000 tonnes to 120,000 tonnes expected to be ready by 1980-81.

Barring the price issue, most other matters appear to have been settled to Iran's satisfaction. The next round of talks is to be held in two months.

Last year, a six-man Iranian Government team had visited the Indian Aluminium Company's alumina plant in Belgium in Mysore, and also the east coast region where the state-owned Bharat Aluminium Company pro-

poses to set up two large-sized alumina plants, the bulk of which will be export-oriented.

The Indian Aluminium Company's alumina plant with an annual capacity of about 150,000 tonnes will be expanded by 140,000 tonnes to fulfil the export commitment. The expansion will require an investment of about Rs30m. to Rs35m. In view of such large investment, efforts would be made to enter into a long-term agreement, say for five years, with Iran.

Alcan of Canada is a collaborator in the Indian Aluminium Company's alumina plant. It has been entrusted with the task of preparing a feasibility report for Iran to put up a shore-based smelter there.

### World Economic Indicators

TRADE STATISTICS		Aug. 77	July 77	June 77	Aug. 76
W. Germany DMbn.	Exports	20.9	21.2	23.2	19.2
	Imports	18.4	19.4	20.4	18.0
	Balance	+2.5	+1.8	+2.9	+1.2
U.K.	Exports	2.773	2.741	2.775	2.039
	Imports	2.632	2.971	3.072	2.332
	Balance	+0.141	-0.230	-0.297	-0.293
France	Exports	20.117	25.558	29.495	17.411
	Imports	22.571	25.664	30.271	20.143
	Balance	-2.454	-0.106	-0.576	-2.732
Holland	Exports	7.844	9.051	8.405	8.146
	Imports	8.337	9.955	9.053	7.991
	Balance	-0.493	-0.904	-0.648	-0.155
Italy	Exports	3.469	3.613	3.415	2.993
	Imports	3.184	3.529	3.586	2.882
	Balance	+0.285	+0.084	-0.171	+0.111
Japan	Exports	7.097	6.682	6.054	5.777
	Imports	5.049	5.102	5.414	5.777
	Balance	+2.048	+1.580	+0.640	+0.005
U.S.	Exports	10.149	10.112	9.970	9.716
	Imports	12.476	12.932	10.121	10.093
	Balance	-2.326	-2.819	-0.151	-0.377
Belgium	Exports	125.3	109.0	113.0	114.5
	Imports	125.5	119.0	124.0	119.5
	Balance	-0.2	-10.0	-11.0	-5.0

\* Provisional. \* June '77 includes trade between Belgium and Luxembourg

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HOME NEWS

LABOUR NEWS

# Optimistic Healey sees NEDC

By JOHN ELLIOTT, INDUSTRIAL EDITOR

AN OPTIMISTIC report on the opportunities for Britain's economy will be delivered this morning by Mr. Denis Healey, Secretary of the Exchequer, to the National Economic Development Council. Mr. Healey will also warn the future depends on industrialists and unions playing their part by increasing investment and restraining pay rises. This will be the first NEDC meeting since July. In the past few months the annual Trades Union Congress has backed the Government's 12-month rule, the International Monetary Fund meeting has boosted international confidence in the British economy, and Labour leaders in the past week have come under pressure at their party's annual conference for a "reflationary measures". Mr. Healey's statement will open the way for a possibly wide-ranging debate, involving the industrialists and union leaders on the council, about the economy. The meeting will then discuss a National Economic Development Office paper which points out that, although there is spare capacity in the economy at present, future developments depend on the Government's industrial strategy providing both the right sort of skilled manpower and

products with the necessary design, quality and delivery requirements of would-be customers. The council will consider a progress report on nationalised industry exports. This points out that in addition to direct exports worth £1bn. a year from these industries, a further £30m. a year is earned through project management work and other consultancy services overseas.

The meeting will consider a progress report on nationalised industry exports. This points out that in addition to direct exports worth £1bn. a year from these industries, a further £30m. a year is earned through project management work and other consultancy services overseas.

# Statistics likely to show reduction in inflation

By MICHAEL BLANDEN

IMPORTANT data of economic statistics is due to be published this week as Mr. Denis Healey considers the amount of inflation he should inject in the next economic package. The figures will show the latest inflation in the degree of inflation in the growth of the domestic economy as well as in the external position of the U.K. They also provide the first indication of movement in the money supply last month after the continued large inflows of money in abroad which have boosted official reserves to a record level. Price trends will be illustrated by when the wholesale price index for last month will give advanced pointer to the expected easing of inflation. In August these figures equaled

# Controls no answer, Fabians say

IMPORT CONTROLS are not the means with which to fight Britain's economic problems, a Fabian Society pamphlet published at the week-end argues. It opposes any form of protectionist trade policy and suggests that industrial support in the face of foreign competition should be cautiously given, regularly reviewed, and subject to close investigation.

Mr. Vincent Cable, its author, says controls often produce worse effects than the problems they are meant to solve. Some British and European politicians, which criticise the effects of the Common Agricultural Policy, are eager to apply the same principles to areas of manufacturing.

It might be better to ease industry through change rather than protect in the traditional sense. Subsidies might be better than tariffs or quotas. "Subsidies are less absolutely protectionist and, being costly to governments rather than to an amorphous mass of consumers, may be easier to control."

Protection could be traded off for a measure of public ownership. That would ensure accountability. *Import Controls: the Case Against.* By Vincent Cable. Fabian Research Series 33. Fabian Society, 11, Darnley Street, London SW1H 9BN, 77p.

# Community membership defended

By Michael Blenden

STRONG defence of Britain's continued membership of the Common Market has been mounted by Mr. Frank Dolling, director general manager of the relays Bank International. In the latest issue of the relays Bank Briefing, he says that there were major facilities to be overcome, requiring close political and economic co-operation among the EEC members. But he says: "In our view, it is prepared to play a positive and constructive role in European Community, will enable us to cope effectively with these issues, ensuring over the next generation an orderly and just growth in our society." He cites a number of reasons for the bank's support for the EEC. First the bank believed in removal of barriers to international commerce, trade and peace. Second, it had "an interest in stability" and was minded that the EEC had been a significant factor in avoiding the past few years' the catastrophic nationalist policies the inter-war period.

ully behind

The bank also stood fully behind international co-operation deal with inflation, recession and unemployment. It was, too, much concerned with agriculture. The bank also supported operation in helping the less privileged in our own societies. ally, it believed in "the portance and well-being of those who live in the developing countries of Africa, Asia and in America."

# Quest for productivity deals attacked

THE U.K. quest for productivity deals is wrong, according to an Association of British Chambers of Commerce report published today.

It calls for a move to cost reduction agreements. The tax system should also be reformed and the trade union movement must undergo a marked change of heart. All these changes are necessary to reverse the U.K.'s economic and political decline, says Mr. Bruce Sutherland, author of *Productivity: A Wrong Attitude of Mind*. Arguing that Britain's pursuit of productivity has led only to a steady rise in production costs, falling wages, and a devalued pound since the war, Mr. Sutherland recalls his experiences with U.S. companies. "Everywhere I asked com-

# Architects' incomes rise by average of 6%

By ARTHUR SANDLES

ARCHITECTS' incomes rose by an average of 6 per cent, during the year to the end of June, says a survey by the Royal Institute of British Architects. RIBA says that the rise was "illusory" since the retail price index rose by nearly 18 per cent. The survey published today says earnings in private practice, especially those of partners went up by more than public sector earnings. Private sector earnings rose by between 9 and 16 per cent. By contrast the public sector the survey

# TUC talks on priorities for stimulating economy

By CHRISTIAN TYLER, LABOUR EDITOR

TUC LEADERS will this week discuss their list of priorities for the economic stimulus half-proposed for this autumn, and for next Spring's Budget. The meeting with the Chancellor has yet been arranged, but the possibility of a session soon after Wednesday's meeting of the TUC economic committee is not ruled out. Demands for a combination of tax cuts and a revival of public spending are expected to form the core of Wednesday's discussions. The Chancellor made it fairly clear last week during the Labour Party conference that cuts in direct taxation are likely. These the Government see as the best way of assuaging union militancy on wages and of preserving the 10 per cent. earnings increase target to which it has committed itself. On the public expenditure side,

another boost for the construction industry is widely expected. The tax cut that most interests the TUC, however, is the idea of a reduced rate band to help lift whole sections of the low-paid workforce out of the "poverty trap." This idea will again be on the agenda on Wednesday, and could well get strong backing from union leaders like Mr. Jack Jones of the Transport Workers and Lord Allen of the Shopworkers, who were particularly dismayed that it failed to get into the last Budget. The chances of that idea being picked up by the Chancellor now look much better. There is little doubt that a promise to investigate the possibilities would help establish the "climate" which the TUC says is the only way the Government will secure a moderate level of wage settlements.

# Most companies agree to 10%

By Our Industrial Staff

ONLY 10 per cent. of companies in the South East have concluded agreements above the Government's 10 per cent. wage increase guidelines, says the London Chamber of Commerce. Most of them have agreed in wage increases of around 15 to 16 per cent says the chamber's survey of 600 companies. One Hampshire engineering company, employing 200 people, settled for a 22 per cent. rise. The chamber says most of its members in London and the South East are "willing to acquiesce in the Government's sanctions policy as long as it is applied equally to public and private sectors." It adds, however, that any relaxation in the interpretation of Government policy, at Ford or at the National Coal Board would undermine the low level agreements so far reached. The chamber's members where there is strong evidence that the British economy will recover "in its own time" provided there is no "premature Government stimulus."

# ACAS accepts claims

By OUR LABOUR STAFF

THE ADVISORY, Conciliation and Arbitration Service yesterday recommended that union recognition should be granted to the Transport and General Workers at a small Skegness factory's manufacturer despite a strike by some shop-floor workers. In its report on a recognition claim by the union at Sanderson Fordhills of Skegness, ACAS says that it has given "careful consideration" to whether its recommendation should be changed because of the strike. In May this year 43 out of the 100 shop floor workers went on strike over a colleague who was dismissed, but ACAS points out that its survey of employee opinion was carried out in April. The TGWU was also recommended for recognition by ACAS yesterday at the Leeds company Autogen (U.K.). The Association of Scientific, Technical and Managerial Staffs was recommended by ACAS to represent foremen at Holo-Krome Ltd. of Dundee.

# NALGO calls for Hounslow Hospital inquiry

By Our Labour Staff

CALLS FOR a Government inquiry into the "forced evacuation" of old patients from Hounslow Hospital, London, on Thursday evening have come from the National and Local Government Officers Association and the South-East region of the TUC.

Mr. Geoffrey Drain, NALGO's general secretary, said yesterday he was "absolutely furious" when he heard of the incident. He described it as the most disgraceful incident in the history of the NHS. The patients were moved while staff were "working in" in protest at the area health authority's decision to close the hospital as a result of public expenditure cuts.

# Ferries halted by day strike

A 24-HOUR strike by ships' officers will passenger services from Harwich in the Hook of Holland yesterday. The strike, over pay rates, halted sailings of the British Rail passenger ferries, St. Edmund and St. George. Sailings are expected to resume normally to-day, according to British Rail.

# Police union chief is warned

MR. JIM JARDINE, Police Federation chairman, says he has received a "warning" from senior officers over what he says is the battle to secure more money for his members. "In what he described as a 'friendly warning,' he was told that he could find himself in legal advice," said Mr. Jardine.

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## HOME NEWS

## NEW STRATEGY ON EVE OF PARTY CONFERENCE

# Tories want a switch from direct to indirect taxes

ON THE EVE of their annual conference, the Conservatives have presented their own grand design for putting Britain's economy back on its feet. The proposals seek a large shift from direct to indirect taxation, increased emphasis on monetary policy, and a firm but fair line towards the trades unions.

These goals are set out in a 52-page document entitled *The Right Approach to the Economy*, which argues that the recent improvement in Britain's financial fortunes must not be allowed to mask the severe underlying problems.

The authors are four of the party's senior economic spokesmen, Sir Geoffrey Howe, the shadow Chancellor, Sir Keith Joseph, the Tory industrial spokesman, Mr. James Prior, the shadow Employment Secretary, and Mr. David Howell, MP for Guildford.

## Incentive priority

They outline the policies that a Tory Government would adopt and the philosophy that underlies them, laying stress above all on the overriding priority of a return to a freer economic system, with a generous place for incentive and individual enterprise.

Most important, however, the statement is intended to show that the party leadership is united in its economic views, and particularly on the con-

tions issue of Tory relations with the unions. The unashamed model is the "golden era" of the early 1950s when, the authors claim, a Conservative Government managed the "break for freedom" in the teeth of similar warnings to those now heard from Labour, and achieved a rapid increase in prosperity for the British people.

The Callaghan Government receives grudging praise for taking some of the right steps, under the prodding of the International Monetary Fund, but the document declares: "Labour is completely unprepared to deal with the challenges. It does not understand them, and does not believe in the measures necessary to meet them."

On monetary and financial policy the prime objective is to "unwind the inflationary coils which grip the economy." This would be done by gradually reducing the rate of expansion of the money supply, by lowering the burden of public debt contracted both abroad and at home through excessive public spending, and also by allowing the pound to float higher thus creating a "virtuous spiral" of declining inflation.

The writers advocate a greater use of well-publicised monetary targets, as well as a more independent role for the Bank of England and a bigger say for Parliament and its select committees.

By RUPERT CORNWELL, Lobby Staff

They then reiterate the oft-proclaimed Tory goal of a smaller share of total output going to the public sector, although this would be achieved without "savagely and indiscriminate" cuts across the board.

Instead the redaction would be gradual and tailored to do as little damage as possible to capital, as opposed to current spending. But the Tories do plan major savings by the cancellation of Labour programmes including the "pointless" Community Land Act, and by mounting an efficiency drive in Whitehall and at local authority level.

Cash limits are considered essential to keep expenditure under control, especially since Parliament was finding it extremely difficult to fulfil its monitoring function.

On earnings and wage negotiations the aim is a return to realistic and responsible free collective bargaining, guided by judicious use of the money supply. The authors emphasise that different groups should be able to receive wide variations of increase, as market conditions dictate.

The Government ideally ought to stand well clear of the bargaining process, and the document is very wary of any pay

"norm."

The authors call for reform of the present collective bargaining procedures, and pin great hopes on the forthcoming Advisory Conciliation and Arbitration Service's Code of Practice as a source of guidance on key points, including negotiating methods and the procedure for introducing agreements.

The notion that a Conservative Government would inevitably move towards confrontation with the unions is rejected. "We see the trades unions as a very important economic interest group whose co-operation we must work constantly to win."

The longest section is devoted to tax reform, and sets out a complete programme for restoring sanity to our tax system, although this would have to be phased over most of the first term of office of a Tory Government.

The tax strategy will be based on four principles: lower personal taxation to restore work incentives, measures to stimulate business growth, stronger encouragement to personal saving and capital building, and simplification of the system.

The income tax burden would be lightened by lowering the basic rate,

raising thresholds, widening higher tax bands and reducing higher rates. The fall in revenue would be made good, the document makes clear, by increased value-added tax and excise duties.

There is a similar root-and-branch approach to capital taxation. Capital Transfer Tax will be transformed, and Capital Gains Tax revised so that only real (and not inflationary) gains are covered. A Wealth Tax is ruled out, while development land tax will be lowered.

The authors repeat their commitment to a property-owning democracy, and on the issue of profit-sharing schemes in industry. Above all, they urge wholesale simplification of the present tax structure, with a gradual switch to flat credits, and an end to "nit-picking" by the authorities.

The next Conservative Government would mostly confine its industrial policy to creating an atmosphere of freedom and incentive, encouraging higher productivity and a climate in which wealth and profit arouse admiration rather than resentment.

A stern line is taken on industrial companies in trouble. Rescues would be restricted to "some exceptional cases which may be justified in the national interest," while nationalised industries would be run on more commercial lines, with the long-term aim of "reducing the preponderance of State ownership."

On employment laws, and above all the closed shop which has split the Conservatives, the document tiptoes round the issue, stressing only the points on which the party is agreed.

"The Conservative party is against the closed shop, but we recognise that a simple attempt to ban them can not only be ineffective but also harmful to individuals concerned."

## Closed shop

The document therefore sets out a number of safeguards, notably that a closed shop agreement should be decided by a majority of all the workforce involved, and by secret ballot, and that those unfairly dismissed for refusing to join should be eligible for compensation from their employer. Strong personal conviction should also be grounds for exemption.

The document condemns the trade union-director proposals of the Bullock report, describing them as "a recipe for disputes while denying any effective say to people at their place of work."

The Tory answer is to increase participation by expanding the individual worker's knowledge of the prospects and plans of his company.

The document repeats the party's antagonism to price and profit controls, which it says reduce not prices but jobs.

## Prentice ready to serve in a Thatcher Cabinet

By PHILIP RAWSTORNE

MR. REG PRENTICE, the former Labour Cabinet Minister who switched to the Conservatives at the week-end, said yesterday that he would be ready to serve in a future Tory Cabinet.

No deals had been made with Mrs. Margaret Thatcher, the Tory leader, he said. "But I think she would like to see me stay in Parliament."

Mr. Prentice, who intends to retain his seat at Newham North-East until the next General Election, said he would like to be considered by any Conservative association looking for a new Parliamentary candidate.

Mrs. Thatcher, who welcomed his decision to take the Tory whip next session, had not promised anything, Mr. Prentice had stressed. But he added: "I would like to serve in her Cabinet, wherever she thought fit."

Mr. Prentice, the first Labour Cabinet Minister to have joined the Conservatives in the Commons, said in an interview on London "Weekend Television" that he had been gradually forced to the conclusion that the Labour Party had to be soundly defeated at the next election.

It was "the only way we can prevent this country going on a further lurch down the Marxist road."

Questioned by Mr. Brian

Walden, the former Labour MP, Mr. Prentice said that he was already having serious doubts about the direction the party was taking at the 1974 General Election.

He had not resigned then because "there seemed to be a career to fight within the party."

Other Labour moderates had continued, however, to compromise with the Left-wing. "If I blame myself for anything, it is that I didn't leave the Labour Party earlier."

Mr. Prentice said that he did not consult any of the Newham party members who had been helping him in his fight to retain the Labour candidacy. "The hardest part of this decision for me has been the knowledge that they would be shocked and disappointed at what I've done."

He added: "I have not changed my principles, but the Labour Party has gone further downhill in recent years and I was therefore forced to this decision."

Asked how he squared his past support for comprehensive education and a statutory incomes policy with present Tory policies, Mr. Prentice said: "I am not saying that I accept every detail of Conservative policy or everything."

He believed he was a moderate man and that his place was in the middle ground of politics. "Only a minority are

## Companies call for State-backed loans

By LYNTON McLAINE, INDUSTRIAL STAFF

LOANS TO small businesses in the European Economic Community should be guaranteed by the Government to encourage private investment in independent companies, says the Association of Independent Businesses.

This is the main recommendation to be given by the association to the Wilson Committee investigating City institutions.

Small, independent businesses have been severely hampered by the difficulties of generating finance internally and of obtaining private finance.

These problems stemmed from Britain's tax system. In its evidence to the committee, it will call for major tax changes. The income tax rate of 50 per cent. with a 10 per cent. investment surcharge, the association says, is the starting rate should be more akin to that in other

countries, at around 15 per cent.

Capital transfer tax should be abolished and replaced by a "form of inheritance tax." The association will tell the Wilson Committee this should be based on the value of a family's net worth, not the value of the estate.

Capital gains tax should be phased out over 10 years, says the association.

The loan guarantee scheme, according to Mr. Colin Dauris, a member of the association's committee, would be similar to schemes run by the U.S. Small Business Administration and by Britain's Export Credit Guarantee Scheme.

Guarantees may persuade banks to be "less conservative" in their lending policy, said Mr. Dauris, "and they may be more willing to provide risk capital."

## Lack of jail training deplored

By CHRISTOPHER DUNN

PRISONERS' lack of useful training for jobs when they leave, which would help to reduce crime, was deplored by the APEX (Advancing the Prospects of Ex-Offenders) group.

Mr. Lumkin, general administrator of the trust, said for jobs within prisons.

## APPOINTMENTS

### Lord Aldington heads Westland Aircraft

Lord Aldington has become chairman of WESTLAND AIRCRAFT in place of Sir R. D. Glyn, who has retired from that position but remains a director.

Mr. L. F. C. Tarrant has been appointed deputy managing director. Mr. B. J. C. Catlin and Mr. J. E. Neizer have become directors of COSTAINS INTERNATIONAL.

Mr. R. B. M. Fawcett has been appointed commercial director of EDMUNDSON ADVERTISING, a subsidiary of the Charterhouse Group.

GENSTAR has appointed Mr. Nicholas A. Liberator as executive vice president in charge of all international activities outside Canada and the U.S. He will also be responsible for Canadian domestic marine operations.

Mr. J. M. Bohl, Anchor Chemical, has been elected president of the PLASTICS AND RUBBER INSTITUTE OF EUROPE. P. L. Clegg, ICI Plastics Division, has been appointed chairman of Council.

Mr. E. (Bill) Sharma has been appointed a main board director of BANQUETS OF OXFORD. Mr. Sharma was previously director of Wimpy International.

The ROYAL BANK has appointed the following general managers: Mr. W. E. McKinnon, electronic data processing; Mr. A. W. H. Scott, development and marketing; Mr. J. M. Malher, international; and Mr. C. T. Crosby, trustee and investment.

Mr. G. M. Owen has joined GILBERT BROTHERS DISCOUNT COMPANY to become chief certificate of deposit dealer, and assistant to the managing director.

Mr. Gordon T. Simpson, a director and general manager of the LONDON SECURITY REINSURANCE, has been appointed managing director.

Mr. Andy Cowie has been appointed general manager of OVE BUSINESS COMMUNICATIONS.

Mr. Henry Larimer has been appointed sales director of LORIMER'S FREWENTON, a member of the Vaux Breweries Group.

## Peace folk bar politics

By Our Belfast Correspondent

THE PEACE Movement in Northern Ireland has strongly reflected any thoughts of entering party politics.

The first "assembly" of the Peace People in Belfast at the week-end voted overwhelmingly to oppose any form of political party.

The decision came after several hours of debate and followed a speech by Mr. John Hume, the Northern Ireland Secretary, last week that his party would consider devolution by stages, received the support of delegates.

Mr. West said that Unionists should now be ready to seek a form of devolved Government with modifications to suit the present times and circumstances. However, any Stormont administrative body would have to lead to fully devolved democratic institutions.

## Ulster Unionists' devolution offer

By Our Belfast Correspondent

ULSTER UNIONISTS confirmed at their annual conference, this week-end that they were prepared to enter fresh talks on the province's future on the basis of securing an interim form of devolution.

Mr. Harry West, the Ulster Unionist Party leader, who took the party's role in the Northern Constitutional Convention last year, was unacceptable.

Mr. Jeremy Burchill, a former member of the Convention, urged the Government to make public its proposals in an unambiguous way "to show that devolved government can come in stages if necessary but with the end result clearly in view."

Mr. Mason flies to the U.S. today for a ten-day sales drive aimed at drumming up industrial investment in Ulster.

## Businessman's Diary

### U.K. TRADE FAIRS AND EXHIBITIONS

Oct. 16-24	British Computer Society: Computers in Finance	Paris
Oct. 17-21	Int. Hotel and Catering Equipment Exhibition	Strasbourg
Oct. 18-22	Int. Market of Sub-Contracting M.I.D.E.S.T.	Helsinki
Oct. 19-23	Int. Ladies Ready-to-Wear Clothing Exhibition	Paris
Oct. 20-24	Int. Plant Engineering and Maintenance Exbn.	Tokyo
Oct. 21-25	Int. Shop Fitting & Trade Equipment Exbn.	Dubai
Oct. 22-26	Int. Food Manufacturing Exhibition and Conference	Berlin
Oct. 23-27	Int. Furniture Preview Show	Paris
Oct. 24-28	Int. Electric Components Exhibition	Paris
Oct. 25-29	Int. Computer Peripheral & Small Systems Ex. & Conf.	Paris
Oct. 26-30	Int. Caravan Camping Holiday Show	Paris

### OVERSEAS TRADE FAIRS AND EXHIBITIONS

Oct. 16-24	Int. Hotel and Catering Equipment Exhibition	Paris
Oct. 17-21	Int. Market of Sub-Contracting M.I.D.E.S.T.	Strasbourg
Oct. 18-22	Int. Ladies Ready-to-Wear Clothing Exhibition	Helsinki
Oct. 19-23	Int. Plant Engineering and Maintenance Exbn.	Paris
Oct. 20-24	Int. Shop Fitting & Trade Equipment Exbn.	Tokyo
Oct. 21-25	Int. Food Manufacturing Exhibition and Conference	Dubai
Oct. 22-26	Int. Furniture Preview Show	Berlin
Oct. 23-27	Int. Electric Components Exhibition	Paris
Oct. 24-28	Int. Computer Peripheral & Small Systems Ex. & Conf.	Paris
Oct. 25-29	Int. Caravan Camping Holiday Show	Paris

### BUSINESS AND MANAGEMENT CONFERENCES

Oct. 11	British Computer Society: Computers in Finance	Café Royal, W.1
Oct. 12	Charterhouse Japhet Financial Services: The Impoverished Manager and His Rewards	Royal Garden Hotel, W.8
Oct. 13	Henley Centre for Forecasting: Forecasts for Savings and the Stock Market to 1982	Carlton Tower Hotel, S.W.1
Oct. 14	Institute of Marine Engineers: Safety at Sea	76, Mark Lane, E.C.3
Oct. 15	European Study Conference: Free Collective Bargaining	Royal Garden Hotel, W.8
Oct. 16	Brunel University Employing Graduates: Arabian Markets: Saudi Arabia & the Gulf States	Uxbridge
Oct. 17	Financial Times, The Banker, Investors Chronicle, Gulf Air, Gulf Finance	Café Royal, W.1
Oct. 18	Kepler-Treger: Decision Making for Senior Management: Training Consultants: Successful Supervision Course	Bahrain
Oct. 19	Society for Long Range Planning: Construction towards 2000	Bournemouth
Oct. 20	Association of Certified Accountants: Coping with Inflation	Rembrandt Hotel, S.W.7
Oct. 21	London Chamber of Commerce and Industry: Europe and Africa—Trends and Relationships	Coventry
Oct. 22	Middlesex Polytechnic: Workings of Institutions of the European Community	Bloomshurst Hotel, W.C.1
Oct. 23	Coverdale: Practice of Management Principles: Building Advisory Service: Marketing and Tendering for Overseas Contracts	The Guildhall, E.C.2
Oct. 24	London Chamber of Commerce & Industry: The Anatomy of Product Liability Insurance	Commonwealth Hall, W.C.2
Oct. 25	Design and Industries Association: Design—The Missing Sales Factor	Brookhurst
Oct. 26	European Study Conference: Int. Tax Planning for Companies operating overseas—Europe and the Middle East	Carendon Centre, W.1
Oct. 27	Education for Business & Industry: Budgeting Management Time	69, Cannon St., E.C.4
Oct. 28	British Council of Productivity: Unfair Dismissal & Contracts of Employment	Pureit Room, S.E.1
Oct. 29	Gram and Trotman: Cutting Fuel Costs	Jersey
Oct. 30	CBI: Export Finance—The Short End	Café Royal, W.1
Oct. 31	Institute of Personnel Management: National Conference	Metropole Hotel, W.2
Nov. 1	British Production & Inventory Control Society: European Technical Conference	London
Nov. 2	Financial Times, International Chamber of Commerce: European Business in World Development	Café Royal, W.1
Nov. 3	Lloyds of London Press: Financing International Trade	Royal Lancaster Hotel, W.2
Nov. 4	Society of Motor Manufacturers and Traders: European Organisation for Quality Control	Hilton Hotel, W.1
Nov. 5	Marchmont: Tax Strategy for Companies	Inn on the Park, W.1
Nov. 6	Inbuen Group: National Policy and Pay Restructuring	Dorchester Hotel, W.1
Nov. 7	Lancaster: Cost Effective Print in Marketing	144, Marine Engineers, E.C.3
Nov. 8	Overseas Pension Scheme	Westminster Hotel, W.1
Nov. 9	The Review: Arab Insurance Conference 77	New London Conf. Ctr., W.C.2
Nov. 10	Institute of Measurement and Control: The Measurement of Performance in Industry	London
Nov. 11	British Institute of Management: Effective Business Travel	Manchester
Nov. 12	World Trade Institute: Finance of Exports	World Trade Centre, E.1

## A FINANCIAL TIMES SURVEY CONSTRUCTION PLANT AND EQUIPMENT

OCTOBER 31 1977

The Financial Times is planning to publish a survey on Construction Plant and Equipment. The main headings of the proposed editorial synopsis are set out below.

**INTRODUCTION** Turnover of the industry is about £900 million: average annual growth rate over the past 10 years is 5 per cent.

**STRUCTURE** Of some 170 companies in the industry, the top 20 in size account for 80 per cent. of output and employment

**TRADE** The U.K. industry's share of world trade has slipped in 10 years from 20 to 10 per cent. and resulted in a smaller share of the market.

**INDUSTRIAL STRATEGY** The industry is one of 40 industrial sectors whose performance is monitored under the industrial strategy programme and has recently been selected as one of five sectors which will receive special attention.

**PLANT HIRE** Plant hire companies thought to own about 75 per cent. of equipment in use: system once unique to Britain, now established elsewhere.

**RECONDITIONED EQUIPMENT** Accounts for 2 per cent. of equipment sold in U.K.

Separate articles will examine the prospects for the six main products including:

**EARTHMOVING AND LEVELLING EQUIPMENT**

**EXCAVATORS AND TRENCHERS**

**ROAD MAKING AND MAINTENANCE PLANT**

**CRUSHING, PULVERISING AND SCREENING PLANT**

**CONCRETE MIXING AND PLACING MACHINERY**

**MOBILE CRANES**

The proposed publication date is October 31, 1977. For further details of the editorial synopsis and of advertising rates contact: Nicholas Whitehead, Financial Times, Bracken House, 10 Cannon Street, London EC4A 3DF.

Tel: 01-248 8000 Ext. 360. Telex 885033 FINTIM G.

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The content and publication dates of surveys in the Financial Times are subject to change at the discretion of the Editor.

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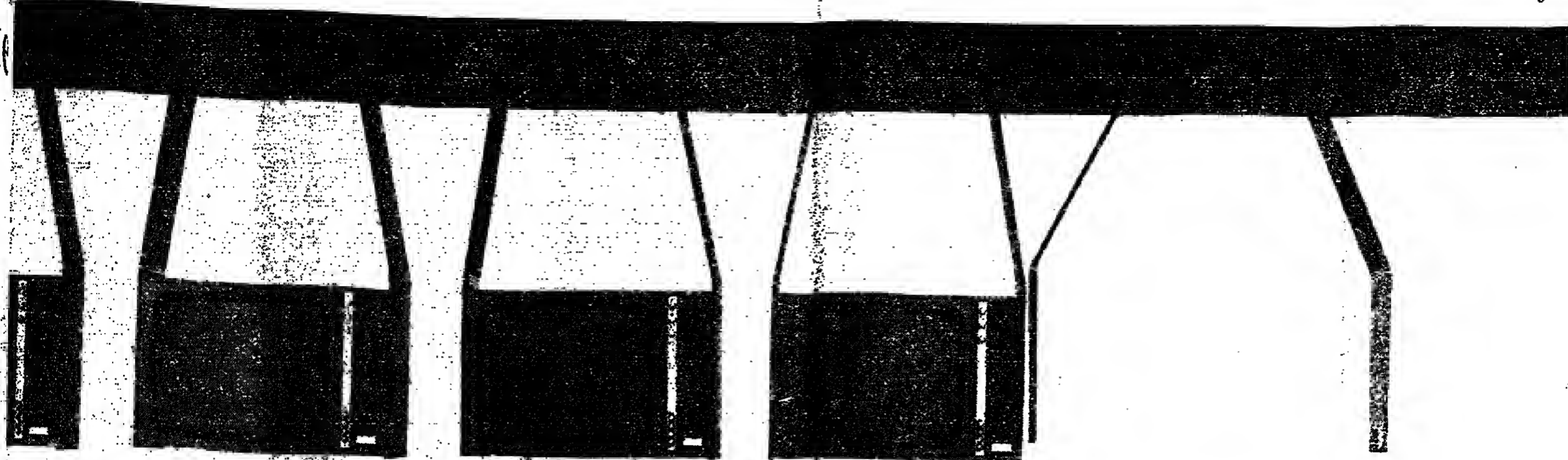
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and ask for Freefone 3140 for buildings queries. For production and transport it's Freefone 6222 in England and Wales, and Freefone 8305 in Scotland.

Second, use the coupon to send off for our wide range of energy saving technical booklets. They're free and cover many aspects of industrial energy loss.

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And when your consultant's report comes in, it should give you a detailed breakdown of your major energy losses. In one recent report, for instance, it was found that the mid-morning electricity peak demand in one factory wasn't due to a new

milling machine, but to the profusion of office kettles.

In any event, with the money you can save, next year's production could reach an all time high.

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| 2. The sensible use of latent heat <input type="checkbox"/>              | 7. Degree days <input type="checkbox"/>  |
| 3. Utilisation of steam for process and heating <input type="checkbox"/> | 8. The economic thickness of insulation for hot pipes <input type="checkbox"/> |
| 4. Compressed air and energy use <input type="checkbox"/>                | 9. How to make the best use of condensate <input type="checkbox"/>             |
| 5. Steam costs and fuel savings <input type="checkbox"/>                 | 10. Controls and energy savings <input type="checkbox"/>                       |

Name

Company

Address

Position



# Technical Page

EDITED BY ARTHUR BENNETT AND TED SCHOETERS

## COMMUNICATIONS

### Signals on fibres guide trains

RAIL AUTHORITY representatives from all over Europe will see a revolutionary development in transport communications when they visit Wilmshurst, Cheshire, on October 12.

They will be shown an optical fibre digital transmission system, supplied by Telephone Cables of Dagenham (a GEC company) and GEC Telecommunications of Coventry, to British Rail, in which 30 simultaneous telephone channels are transmitted over 6 km of optical fibre without the use of repeaters.

Delegates from Sweden, West Germany, East Germany, Poland, Czechoslovakia, Austria, France, Italy, Hungary and the U.K. will be attending a meeting of the High Speed Data Transmission Committee of the Office of Research and Experimentation, Utrecht, ORE, associated with the Union Internationale des Chemins de Fer, Paris.

While recognising the importance of the Pst Office market for optical fibre communications, Telephone Cables, GEC Telecommunications and GEC Hirst Research Centre have been looking at its other applications. Talks with British Rail led to the installation of an optical cable and associated terminal equipment. The optical cable was installed alongside the main existing line at Wilmshurst by a normal B.C. cable installation team and it is expected to be in wide range

of environments typically encountered on the railway. The potential of such optical systems is now being evaluated by the British Rail research and development centre.

Optical fibre communication systems possess several features which make them particularly useful in electrified railway networks. In conventional systems employing copper cables there is always the possibility of the information being corrupted by electromagnetic interference. However, optical transmission over fibres is immune from interference and so the use of optical fibre communication systems can lead to considerable simplifications alongside electrified lines. Although no more vandal-proof than existing copper cables, the optical fibre cable is much less attractive to thieves since its scrap value is negligible.

Dr. Steven Cundy, head of the optical communication group at the Hirst Research Centre has said the "low losses of optical fibre cables make optical communication an attractive proposition for all long-distance communication systems because the number of repeaters required are considerably reduced. Customers in both the public and private sectors are showing great interest in what Hirst believes to be a unique combination of fibre properties: low loss, high strength and ease of bending.

More on 904 1262.

## OFFICE EQUIPMENT

### Processes the words

A NEW word processor system, Cabtext Series 89, has been developed by Cable and Wireless U.K. Services, increasingly prominent in the equipment field in Britain.

Cabtext enables the user to draft, compose, store, recall, modify, etc., and print any type of business correspondence or document. Built around currently recognised hardware equipment and software it has three basic speeds of 45 to 55 characters per unit. The work station will second.

provide complete text processing control via systems keyboard and separate video screen or printer terminal. The storage station has high capacity, random access discs with voice coil positioning features which can store up to 500,000 characters.

The print station features a bidirectional daisy wheel printer head to produce high quality typewriter print at minimum speeds of 45 to 55 characters per unit. The work station will second.

## Five-colour duplicator

SAID TO be almost noiseless, an electrically powered spirit duplicator is being marketed by Ofrex, Stephen Street, London W1A 1EA (01-636 3686).

A desk top model (it weighs 17 kg), it can print on paper weights from 80 to 120 gsm.

## COMPONENTS

### Measuring the flow of petrol

WHEN PETROL prices escalated problems were experienced with the metering heads on the petrol station pumps, out as was widely reported, because the heads could not cope with the speed the money wheels had to turn to record the increased prices, but because the gear trains were subjected to additional wear and higher torque, causing earlier breakdown.

Other reasons included customers' dislike of numbers moving too fast to read. Some meter heads could not be adjusted up to the new rate—this led to forecourt managers' head.

The metering of the petrol flow is still carried out mechanically

marked "times two", which resulted in unfortunate misunderstandings with customers.

The garage trade is now faced with the possibility that petrol prices may go over £1/gallon in the not too distant future, and a change to metric measurement (litres) in 1981. Most mechanical heads could not be readily adjusted to record such price levels, or display the "price per gallon" nor is there a simple metric adjustment.

To indicate the size of the problem—there are some 120,000 petrol pumps in the U.K., of which about 25,000 are the more complicated blender pumps, which could not be adjusted above 80p/gal.

A company which claims to have developed solutions to these problems is Veeder-Root of the U.S. Available in the U.K. later this year will be a unit named Peach (programmed electronically assisted computer head).

The metering of the petrol flow is still carried out mechanically

## MATERIALS

### Epoxy coats are tough

SOLVENT FREE epoxy coating systems are made by mixing, just prior to use, an epoxy component with an organic diamine component. The epoxy is pigmented with various colours and the coatings are used where good abrasion and/or chemical resistance is required for such areas as floors, walls, chutes and silos, etc.

It has been found, however, that many special applications require modified materials. This leads to a wide number of variants being produced which creates specification and stocking problems for the user.

To meet this problem Quentsplass has reformulated so that all the different epoxy components may be mixed with any

## AUTOMATION

### Putting the plant on a small screen

SEVERAL years ago, one of the buzz-words around industry was ergonomics and a number of conferences were held by the cognoscenti to teach designers how to make their products more "user friendly."

One of the several areas where designers faced particularly difficult problems was in the presentation of vast amounts of information, such as in the control rooms of large power stations and manufacturing plants and on the flight decks of big jets.

The latter problem is being gradually solved, but the former one has proved somewhat more intractable.

A new approach described by Honeywell at Interdata could make the serried ranks of analogue instruments a thing of the past in many applications, while allowing users to react much more quickly to an alarm condition.

Honeywell's contention is that displays and associated controllers will supplant conventional arrays of analogue equipment and present a much more easily digested picture of what is going on in a plant, a process or a large piece of equipment such as a turbine.

One improvement in the utilisation of the array of equipment

ment offered, made by Honeywell, has been called UAC, an uninterrupted automatic control. This will detect a malfunction from one between one and eight digital controllers, announce the failure to the operator and simultaneously, and immediately switch in a reserve controller, thus resuming control of the process and all in less than a second.

TDC 2000 describes the main and operating procedures of a company in offering and is suitable for use in practically any industrial control operation from the smallest to the largest installations. Three levels of complexity are offered and new plant control engineers will go out of their depths in switching over to the new system since there is a degree of commonality in functions with the conventional control equipment installed till now.

The three-tier approach allows users to make a gradual move towards the "control room of the future" without its comparatively compact layout around three color video displays. This triple redundancy means that essential control is retained at all times, even if one operator station goes down, while is extremely unlikely.

More from Honeywell on 958 9191.

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(maximum 40 gallons or 150 litres/minute) but the money rate display is microprocessor controlled. The flow rate is stored in a memory, and the microprocessor controls stepping motors driving the money wheels, so that their speed of revolution is no longer directly related to the petrol flow. The design retains the standard wheel display as the company has found some customer resistance to LED, neon tube and similar displays.

Because the flow rate is still mechanically registered, the new heads can be fitted as replacements without disturbing the rest of the pump. All the electrical side is in a flameproof and explosion proof enclosure.

If necessary, the maximum money rate that can be set is \$1.875/gallon! The meter is stated to be accurate to the nearest 0.002 of a gallon or litre. A simple irreversible procedure converts the volume display from gallons to litres, without any meter modifications.

Automatic preset for cash or volume is available, from 00 to 99. Another option is a blender version, with two extra sets of price setting switches, a blend select input shaft, and blend select indicators.

Veeder-Root says that installed

e completely new pump and meter the price is about 20 per cent higher than an all-mechanical head. For retrofit, the price is about three times that of a mechanical head.

The company's U.K. office is at 34, Station Road West, Oxford, Surrey (08833 7488).

## Prints at low cost

LAUNCHED in this country by Bell and Howell is the Anadex DP-1000 alphanumeric printer which, at £400 is claimed by the company to be a "significant breakthrough" in the low-cost serial printer market.

The units use ordinary edging machine rolls, from 2 1/2 to 4 inches wide depending on the number of columns used, and there is an optional tally roll facility for an internally stored second copy.

Printing the 64-character ASCII sub-set at a maximum of 40 columns, the machines

operate at 50 characters/sec. Two versions are available to accept serial inputs either at RS-232C logic levels or in the teletype-writer current drive mode, both with 104 character storage systems. There are other versions accepting TTL inputs in parallel bit serial character form, with a choice of 40 or 104 character stores.

But the main attraction, particularly to OEM customers, will be the availability of the paper on a world wide basis. More from Legnos Road, Basingstoke, Hants, (0256 20244).

## COMPUTING

### Games data on cassette

GENERAL Instrument Microelectronics and EMI Tape have jointly developed an inexpensive method of storing computer data for home use, using conventional audio cassette tapes and a standard audio cassette mechanism or deck.

The technique, for which patents have been obtained, permits the storage of 1.6m bits of data on each side of a conventional C-60, 30-minute per side cassette and offers a one hundredfold increase in storage capacity in comparison with ROM microcircuit cartridges, at one quarter of the price. Moreover, the technique allows voice and digital data to be stored on the same cassette.

Widespread availability of inexpensive hardware for the storage and playback of computer programs is seen as a key factor in the development of the domestic television receiver into a computer system for use by all the family as a TV games centre and programmed learning and information terminal—Viewdata, for instance.

GIM, the world's largest manufacturer of TV games microcircuits, and EMI Tape, a division of the industrial electronics group of EMI, are also collaborating in the development of program material for this new market, with EMI taking responsibility for the manufacture and distribution of tape program cassettes. The first product is likely to be a range of TV games and educational programs which will be available through normal tape and record distribution outlets.

General Instrument Microelectronics has in an advanced state of development a set of compatible MOS microcircuits for interfacing television sets to its CP 1600 microprocessor family. Modular in concept, these interface circuits can be used by the manufacturer to offer a wide range of optional extras on the standard TV, culminating in a complete home computer system.

The interface circuits allow the reception of the Viewdata and Teletext services. Provision is also made for remote armchair controllers, and for interfacing to the cassette mechanism for the playback of TV games and educational programs.

GIM, 57 Mortimer Street, London W1N 7TD. 01-636 2022.

## PLANT & MACHINERY SALES

Description	Price	Telephone
8 BLOCK (400 mm) IN LINE, NONSLIP WIRE DRAWING MACHINE in excellent condition, 0/20000/min variable speed 10 hp per block (1968).	P.O.A.	0902 42541/2/3 Telex 336414
24" DIAMETER HORIZONTAL BULL BLOCK by Farmer Norton (1972).	P.O.A.	0902 42541/2/3 Telex 336414
ROTARY SWAGING MACHINE by Farmer Norton (1972).	P.O.A.	0902 42541/2/3 Telex 336414
SPLITTING LINE 500 mm x 3 mm x 3 ton capacity.	P.O.A.	0902 42541/2/3 Telex 336414
TWO VARIABLE SPEED FOUR HIGH ROLLING MILLS Ex. 6.50" wide razor blade strip production.	P.O.A.	0902 42541/2/3 Telex 336414
MODERN USED ROLLING MILLS, wire rod and tube drawing plant—roll forming machines—slitting—flattening and cut-to-length lines—cold saws—presses—guillotines, etc.	P.O.A.	0902 42541/2/3 Telex 336414
1974 FULLY AUTOMATED COLD SAW by Noble & Lund with batch control.	P.O.A.	0902 42541/2/3 Telex 336414
1978 CUT-TO-LENGTH LINE max. capacity 1000 mm 3 mm x 7 tonne coil fully overhauled and in excellent condition.	P.O.A.	0902 42541/2/3 Telex 336414
1965 TREBLE DRAFT GRAVITY WIRE DRAWING machine by Farmer Norton 27"-29"-31" diameter drawblocks.	P.O.A.	0902 42541/2/3 Telex 336414
STRIP FLATTEN AND CUT-TO-LENGTH LINE by A.R.M. Max. capacity 750mm x 3 mm.	P.O.A.	0902 42541/2/3 Telex 336414
1970 TWO STAN DWIRE FLATTENING AND STRIP ROLLING LINE variable speed 60 hp per stand.	P.O.A.	0902 42541/2/3 Telex 336414
2 15 DIE M4 WIRE DRAWING MACHINES 5000 Ft./Min with spoolers by Marshall Richards.	P.O.A.	0902 42541/2/3 Telex 336414
50 H.P. VERTICAL WIREDRAWING BLOCK x 630 mm dia.	P.O.A.	0902 42541/2/3 Telex 336414
9 ROLL FLATTENING MACHINE 1700 mm wide.	P.O.A.	0902 42541/2/3 Telex 336414
7 ROLL FLATTENING MACHINE 965 mm wide.	P.O.A.	0902 42541/2/3 Telex 336414
COLES MOBILE YARD-CRANE 6-ton capacity lattice rib.	P.O.A.	0902 42541/2/3 Telex 336414
BRONX 6 ROLL PRECISION TUBE AND BAR STRAIGHTENING MACHINE, variable speed type 6 or 3.	P.O.A.	0902 42541/2/3 Telex 336414
CENTRIFUGE—P2000 stainless decanter.	£7,500	Harfield 2464 Tx 93399

## WANTED

MODERN USED ROLLING MILLS, wire rod and tube drawing plant—roll forming machines—slitting—flattening and cut-to-length lines—cold saws—presses—guillotines, etc.

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**PARCEL 3:** Inventory of finished goods and raw materials and all associated supplies of a consumable nature.

Tenders in sealed envelopes accompanied by the deposit of a certified cheque payable to the Receiver-Manager in the amount equal to at least five per cent of the amount bid must be in the hands of the undersigned Receiver-Manager not later than 12:00 noon, Tuesday, November 8, 1977. Tenders will be received by parcel or an bloc. Tenders will be accepted on the basis that the purchaser has inspected the assets and no warranty or condition is expressed or can be implied as to description, condition, size, quality, or any manner whatsoever. Adjustments for long and short in respect of consumable goods will be made on a pro rata basis. The property is offered for sale subject to the approval of the Supreme Court of Alberta.

The lands will be sold free and clear of all encumbrances (save for a utility easement in favour of the City of Red Deer) but subject to the restrictions in the existing Certificates of Title. If the successful tenderer does not complete the purchase after acceptance of his tender, as approved by the Court, the deposit shall be forfeited. The highest or any tender will not necessarily be accepted. Cheques of unsuccessful tenderers will be returned to them.

Enquiries should be directed to:

Donald R. Yeoman, C.A. Receiver-Manager,  
c/o Dunwoody & Co.,  
508 Fifteenth Avenue, S.W., Calgary, Alberta T2R 0R2, Canada.  
Telephone (403) 262-5464.

## THE PUBLIC CORPORATION FOR FISH WEALTH, TAWAHL, ADEN, PEOPLE'S DEMOCRATIC REPUBLIC OF YEMEN

### INVITATION TO TENDER ON PURSE SEINER CONSTRUCTION

- The Public Corporation for Fish Wealth in Aden is inviting experienced shipyards to tender for construction of six steel purse seiners.
- The Public Corporation for Fish Wealth has received funds from the Arab Fund for Economic and Social Development and the Kuwait Fund for Arab Economic Development in various currencies equivalent to K.D. \$500,000 towards the cost of these boats. It is intended that part of the proceeds of the sale of these boats be applied to payments under the contracts for which this invitation to tender is issued.
- The seiners will have a holding capacity of about 200 cubic metres, bidding documents such as tendering instructions, conditions, the general arrangement plans and specifications will be available on application from Stevenson and Kellogg Ltd., 1133 Duke Street Tower, Scotia Square, Halifax, N.S. Canada, on 31st October, 1977.
- Non-refundable deposit by international money order for fifty U.S. dollars to cover printing and mailing must accompany requests for the bid documents.
- Sealed tenders will be opened at the Public Corporation for Fish Wealth, Tawahl, Aden, People's Democratic Republic of Yemen, at 12 noon on January 15, 1978.

## Thames Water Authority - U.K.

### Thames Tidal Defences

### Contract 20E

### Barking Barrier Gates and Machinery

The Thames Water Authority propose to invite tenders during 1978 from prequalified firms for the design, manufacture and erection of five vertical-lift type steel flood gates and their operating machinery for Barking tidal barrier.

The barrier will be constructed across Barking Creek at its confluence with the River Thames, about 16 km downstream of central London. It will form part of the defences against tidal surges in the Thames Estuary.

The largest gate will measure approximately 41 m wide by 11 m high and will be raised and lowered through a distance of about 37 m.

It is envisaged that hoisting machinery will be electro-mechanical with mains supply and a diesel standby power source.

Contractors who wish to be included on the list of pre-qualified tenderers for the above works are invited to apply in writing to:

BINNIE & PARTNERS,

Artillery House,

Artillery Row, London SW1P 1RX,

by 28th October, 1977. Applicants will be sent a more detailed description of the proposed works and a questionnaire enquiring into each firm's technical and financial standing.

## Turkish State Railways (TCDD)

### The Chairmanship of Central

### Purchasing and Sales Commission

Tenders are invited for 18 rail cutting machines, 16 portable rail-drilling machines, 10 diesel electrogenerating sets, and 24 combined screwing, unscrewing, and fishbolt fastening machines of which the technical features are written in the specifications.

- The above materials are to be purchased by receiving bids from the countries who are members of the World Bank (IBRD).
- The Specifications prepared for this purpose in Turkish and English can be purchased from TCDD's central cash office in Ankara and Sirkeci cash office in Istanbul with a price of TL. 250.00.
- The bids shall be received by or handed in person to our Commission not later than Tuesday the 6th December, 1977, 13.00 hours, for a meeting at TCDD Supply Department on this date.
- The bids shall be submitted in seven (7) copies (together with their Turkish versions, if possible), and the words "TCDD İsteimesi Genel Müdürlüğü Merkez Alım ve Satım Komisyonu Başkanlığı Gar-Ankara/Türkiye" and "This is an offer for the material subject to IBRD's loan and also subject of the Bid" shall be written on the envelopes containing the bids.
- TCDD shall be completely free to award contract(s) for all or some of the items to any bidder at its sole discretion.



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# The new Ford Granada Emphasis on engineering



2.8 litre V6 Granada Ghia with automatic transmission and optional extra headlamp washers.

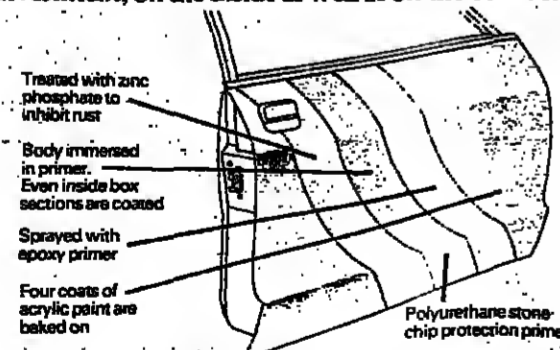
## Solid engineering makes the Ford Granada a durable and reliable car

**G**ood engineering should make a car work better without making it more complicated.

However handsome a car may look it's what the eye can't see that determines how long it lasts and how well it performs. Ford set out to build a car that would be durable, reliable and have the safe, decisive handling today's motoring conditions require. They started from the inside and worked out, putting the emphasis on engineering.

Here are just a few of the more important developments the engineers built into the car. See if your priorities are the same as theirs.

**The quest for durability**  
Nobody would deny that a car's worst enemy is corrosion. If it is not properly protected a car can start to show its age very quickly. But just as important is the protection of vulnerable parts you can't see. Preparing the Granada body, protecting it against rust and eliminating rust traps inside body sections, sealing underneath the wheel arches and applying 4 coats of tough acrylic paint involves no less than 18 separate processes. That's the sort of thoroughness that has gone into protecting your investment, on the inside as well as on the outside.



### Reliability is achieved by attention to detail

Ask any AA man and he will tell you that it is the small electrical faults that are the cause of most breakdowns. Ford have reduced the mass of connections you find behind the dashboard of more conventional cars by using a printed circuit which means there are fewer connections to work loose. Also the main relays and fuses are contained in a central distribution box for ease of service.

But perhaps the most important electrical refinement is the new electronic breakerless ignition system on the V6 engines. It delivers a more powerful and accurate spark which, in turn, provides more efficient fuel ignition. This helps maintain engine tune, resulting in improved economy. Starting on cold mornings is also made easier.

### 12000 mile service interval

Improved durability means that the service interval is extended to 12000 miles on all Granada petrol models (apart from minor checks and oil changes at 6000 miles) so you save on service charges too.

Amongst other examples of thoughtful engineering are the self-adjusting clutch and the

fact that the brake linings can be inspected without removing the wheels. More details that help to keep your service costs down.

### Suspension that gives safe, decisive handling and peace of mind

Probably the most important safety feature a car can have is suspension that gives you predictable and decisive handling, particularly at speed and when cornering. The Granada has independent suspension on all four wheels. It ensures that the tread on all four tyres is firmly in contact with the road surface. The car feels taut and well-balanced all the time, leaving you feeling relaxed and confident.

The Granada's 59.5" front and 60.5" rear tracks (the widest in its class), together with the low centre of gravity and long wheel base give superb stability. Down forces created by the front spoiler and the extra air diverted over the bonnet by the special radiator grille reduce lift at speed and ensure that the car hugs the road.

The GL and Ghia are fitted with gas filled shock absorbers (these help soak up the bumpiest road) and the 'S' with Bilstein gas shock absorbers (for the man who drives that bit harder).

Incidentally the 'S' is fitted with Michelin TRX super low profile tyres as standard equipment. A brand new tyre designed to give the ultimate in performance, immediate response and excellent straight ahead stability when braking.

### Engines that give smooth performance and efficiency

The excellent performance and efficiency of the 2 litre OHC and new 2.3 litre V6 engines has been achieved by an improvement in aerodynamics which reduces the drag factor and by the engineers exceeding the target they set themselves for reducing the weight of the car. The fuel consumption figures obtained using standard European DIN procedure prove the point. The 2.3 litre V6 with manual transmission gives a figure of 26.7 mpg\*.

The exciting new 2.8 litre V6 engine is a beautiful, smooth unit. The optional fuel injection system ensures the most efficient use of your fuel by metering just the right amount of petrol, whether crawling in traffic or driving on the motorway. The fuel injection is a highly developed and well proven system that is used by Europe's best cars.

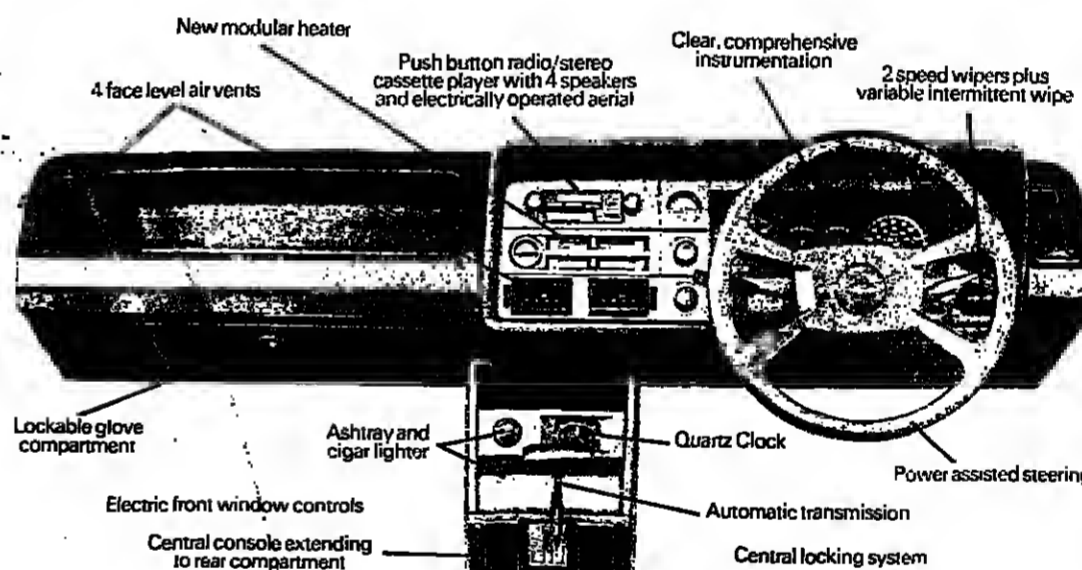
There will also be a new 2.1 litre diesel model. Its benefits of long life, and low fuel consumption - particularly in town driving, will be a welcome addition.

### Comfortable and effortless journeys

When you settle behind the wheel of the new Granada you immediately get a feeling of well-

### Some standard features of the Granada Ghia ►

Automatic transmission (except with fuel injection) - power assisted steering - push button radio/stereo cassette with 4 speakers and electrically operated aerial - laminated windscreen - tilt/sliding roof - alloy wheels - Veronal Crushed Velour cloth seats - central locking system (4 doors and boot) - remote control door mirror - 2 speed variable intermittent wiper windscreen wipers - carpeted boot - dual tone horn - rear fog lamp - tinted glass - electrically operated front windows (electrically operated rear window optional extra) - shag pile carpet



being. Deep, cloth covered seats (leather on the GL and Ghia saloons if you want) with adjustable head restraints on all petrol models, keep you relaxed on the longest journey.

All controls are at your fingertips and add to the feeling of being in complete control. Push button radio is standard on all petrol models, and the Ghia has a push button radio/stereo cassette player with four speakers and electrically operated aerial as standard equipment. Each radio is tested for 24 hours before being fitted. In addition electrically operated front windows and central locking (4 doors and boot) are standard on the Ghia.

The new Granada carries on the Granada tradition for comfort. During its development every body panel was engineered for good acoustic behaviour and the car finally tested in an 'anechoic' chamber to check noise level. It is even quieter than its predecessor, with more sound deadening material built into every model of the range.

### Good visibility means a safer car

The low bonnet and boot line ensure good visibility. The road cut off point is improved over the previous model by 3 feet at the front and 22 feet at the rear. You also get a fantastic 86% all round vision. Laminated windscreen (standard on all

models) means that if you do catch a flying stone you're not immobilised.

A new stratified heating system allows you to select varied combinations of screen and passenger compartment temperature and provides a complete change of air every 20 seconds when travelling at 50 mph. In addition fully integrated air conditioning is optional on all V6 engine models\*.

Take a closer look at the car in your local Ford showroom and see for yourself how the new Ford Granada puts the emphasis on engineering.

Engine size (litres)	Max speed (mph)*	DIN fuel consumption (mpg)*
2.0 L (manual)	102	26.2
2.3 L (manual)	105	26.7
2.8 GL (manual)	113	25.7
2.8 Ghia (automatic)	109	23.9
2.8 Ghia fuel injection (manual)	120	25.2
2.1 diesel (manual)	85	31.4

\*Ford computed performance and economy data for saloon models.

GRANADA PRICES		Minimum prices as at 15 Sept 1977. Seat belts, car tax and VAT included. Delivery and number plates at extra cost. *Available early 1978 provisional price.
Model	Price	
Granada L	from £4,144	
Granada GL	from £5,261	
Granada S	from £5,910	
Granada Ghia	from £5,748	
Granada Diesel	from £4,668	
Granada Estate	from £4,860	



FORD GRANADA



# Building and Civil Engineering

## £10m. Abu Dhabi trade centre

SCOTT, Brownrigg and Turner is to supervise the construction of a trade centre in Abu Dhabi, United Arab Emirates, for Sheikh Suror Bin Mohammed Al Nahyan. The £10m. contract has been let to National Construction Company (Pakistan) and is due for completion in 1979.

Twin seven-storey buildings, each comprising ground floor shopping and reception with six floors of offices above, are to be built parallel to each other. The office buildings will be complemented by a two-storey commercial complex containing a double-level shopping area connected by escalators.

The consultants team includes John Bradley Associates (Overseas), Ove Arup and Partners, and Widdell and Trollope.

SPT Middle East, in association with Scott, Brownrigg and Turner, has designed and is

supervising the erection of a £3m. radio station at Al Khaisah near Doha, Qatar.

The project, which is scheduled for completion in 1978, was commissioned by the State of Qatar, Engineering Services Department for the Ministry of Information, and is being constructed by Binall Construction, a partnership of Ali Bin Ali of Doha and Higgs and Hill of the U.K.

Specialist advice, supply and installation of the transmitters is being carried out by Marconi. Other members of the consultants team are White, Young and Partners, Langdon and Every (Arabian Gulf) and John Bradley Associates (Overseas).

The buildings are designed around an internal landscaped court with the 45 metres high link tower to the Doha broadcasting station arising from the court of the transmitter building.

## Three jobs in Scotland

LAING Scotland has been awarded three contracts totalling more than £1.35m. The work embraces a major redevelopment contract in Glasgow, the construction of a "sheltered housing" scheme in Bothwell, North Lanarkshire, and the erection of a factory on the South Newmoor Industrial Estate, in Irvine, Ayrshire.

Glasgow's Grosvenor Restaurant in Gordon Street, destroyed by fire six years ago, is to be converted into offices under a £617,000 contract awarded by Scottish Site Improvements.

The architects are The Anderson Butter Partnership, the consulting engineers are Hutter Jennings and Titchmarsh (structural), and A. E. Robb and Partners of Glasgow (mechanical and electrical); quantity surveyors are Iain Shaw and Partners.

## Concrete frame for EMI Centre

A £3.1m. sub-contract for the construction of the reinforced concrete frame of the new EMI Centre in Tottenham Court Road, London, has been won by the Disperser Concrete Company (Higgs and Hill Group).

The contract has been awarded by Bovis Construction, managing contractor for the overall project, and will take 16 months to complete.

Architects for the overall project are Sidney Kaye, Furnish and Partners. Brian Colquhoun and Partners are the Consulting Engineers and Cyril Sweet and Partners are the quantity surveyors.

## Roadwork in Bangkok and Trinidad

IN JOINT venture with Trinidad Engineering Research Co. and CEP, Freeman Fox and Partners have been appointed by the Government of Trinidad and Tobago to report on and design the improvement of the 10 km long Princess Margaret Highway in Trinidad.

Addition of a second, two-lane carriageway to the existing highway and provision of feeder and frontage roads and interchanges with other roads which meet the highway are called for.

The feasibility study will be completed at the end of the year, and detailed design 5 months later.

In another joint venture, this time with Thai Engineering Consultants Co., Freeman Fox and Partners have been appointed to supervise construction of the 6 km Din Daeng-Klong Toey Port section of the Bangkok Toll Expressway. Tenders for the contracts are due this month and construction, expected to start

early in 1978, is planned to take 30 months.

The Din Daeng section is located in a congested urban area within an existing railway corridor and it crosses three 6-lane roads and the railway. The presence of weak alluvial soil will necessitate special measures for embankment construction and use will be made of lightweight rice husk ash.

Prior to the design of this section, the joint venture had completed transport/economic studies (covering tolls, heavy vehicle priorities, bus transport, and the phasing of investment) and preliminary engineering designs for the three arms of the Expressway.

Detailed engineering design of the Bang Na to Klong Toey section is now in hand and will be completed early in 1978. Design of the third section, Dao Klong-Klong Toey, will be started when the results of a study of future demand become available.

## Irrigation in Nigeria

SIR M. MacDONALD and Partners, in association with Hunting Technical Services, is to carry out a pre-feasibility study of irrigation and water resources in the Donga River basin in Gongola State, Nigeria.

The agreement was signed between a Nigerian Government department and MRT Consulting Engineers (Nigeria), of which Sir M. Macdonald and Partners is a member firm specialising in water resources development. Hunting Technical Services will be responsible for soils, agriculture and economic studies.

The terms of reference for the study cover an area of about 8,000 square miles and include the collection and analysis of data on climate, surface water and groundwater resources, soils and agriculture together with the reconnaissance, survey and investigation of possible sites for dams, barrages, pumping stations, canal alignments and other works.

## Explosives make joints

DEVELOPED JOINTLY by Vickers International Systems and Development Company, Newcastle, an explosive welding technique has been given formal approval by the Department of Energy.

Approval is for the use of meter 678 in wall thicknesses of 10 to 400 mm.

An internally placed explosive charge impacts the pipe with fitting, which may be a flange or sleeve, at a precise pressure and velocity. A substantial gap surrounds the pipe and the energy in a radial direction gas-inflated bags (called "watering bags") inserted in a pipe each side of the operational area absorb the energy a short distance along the pipe line.

Vickers says that most of the energy generated is efficient used in making the weld so there is no danger to adjacent equipment and structures.

For a successful weld two conditions must be satisfied: weld area must be both clean and dry. The pipe is cleaned by a hydraulically operated machine (developed for the purpose by Vickers) which takes this (maximum 48 inch) skimming from the outer surface of the pipe. It incorporates a profile following device to accommodate pipe ovality and ensure that there is no undue thinning of the pipe wall.

Dry conditions are achieved by using inflatable seals with the weld fitting on either side of the weld area. Once inflated these seals isolate an annulus which can be flushed with variety of liquids and gases.

Several advantages are claimed for the process. It is simple, lightweight, simple equipment and has no requirement for manual skill. Once parameters for achieving acceptable weld have been determined the technique is repeatable and is almost independent of water depth. Vickers says the weld can be readily tested and inspected in situ to confirm the integrity of a joint.

The pipe machine for removing the rusty surface weighs 15 tons and the flush and dry rig 3 tons. The charge package and detonator system 300 lb. The pipe range/rev 2,000 lb. and ultrasonic inspection unit 30 lb. so that the equipment can be handled by the usual heavy vessel gear.

Following the weld, all equipment is recoverable except perhaps loose and segments of the sleeve weld. The material inside the pipe—charge package, dewatering bags and fittings—fragmented by the blast and removed by pigging.

Details from Vickers Offshore Developments, Underwater Pipeline Engineering Group, 24 Grosvenor Park, Bournemouth, Dorset BH1 1AA (0202 25080).

## Two awards to Wimpey

IN THE Sultanate of Oman, George Wimpey has won two contracts for the provision of earthmoving equipment and for the construction and maintenance of roads and approaches to oil drilling locations.

Largest of these contracts valued at £2.4m. is for Petroleum

Development (Oman), and the other is for Quintana International, at about £1m.

In Scotland Wimpey has been awarded a contract by Livingston Development Corporation for the construction of 213 houses on the Deans East 2 District of the New Town. Value of this is over £2m.

## New system Middle East guides from Conder

THE CONDER "Group" has launched a new building system for hospitals, schools and offices in overseas countries. The company claims that two men can put up its latest IBS building without any mechanical aids.

Materials requiring little or no maintenance are used, including galvanneal steelwork for the frame and aluminium for windows and doors. Although Conder supplies all the superstructure materials, the company says that overseas customers can use locally available materials such as brickwork or stone to cut the cost of importing them.

Six building widths are available and almost any building length can be achieved using standard 3.6 metre bays.

## Middle East guides

TO BE PUBLISHED in June next year, the Barbour Middle East Compendium is the result of research by Barbour Index into the requirements of the Middle East construction market. It is intended to provide a cost-effective means of presenting building products (and finding sales opportunities for them) in this growth area for the construction industry. It will be circulated to all specifiers in the Middle East as well as those in the U.K. and overseas who are involved in Middle East projects.

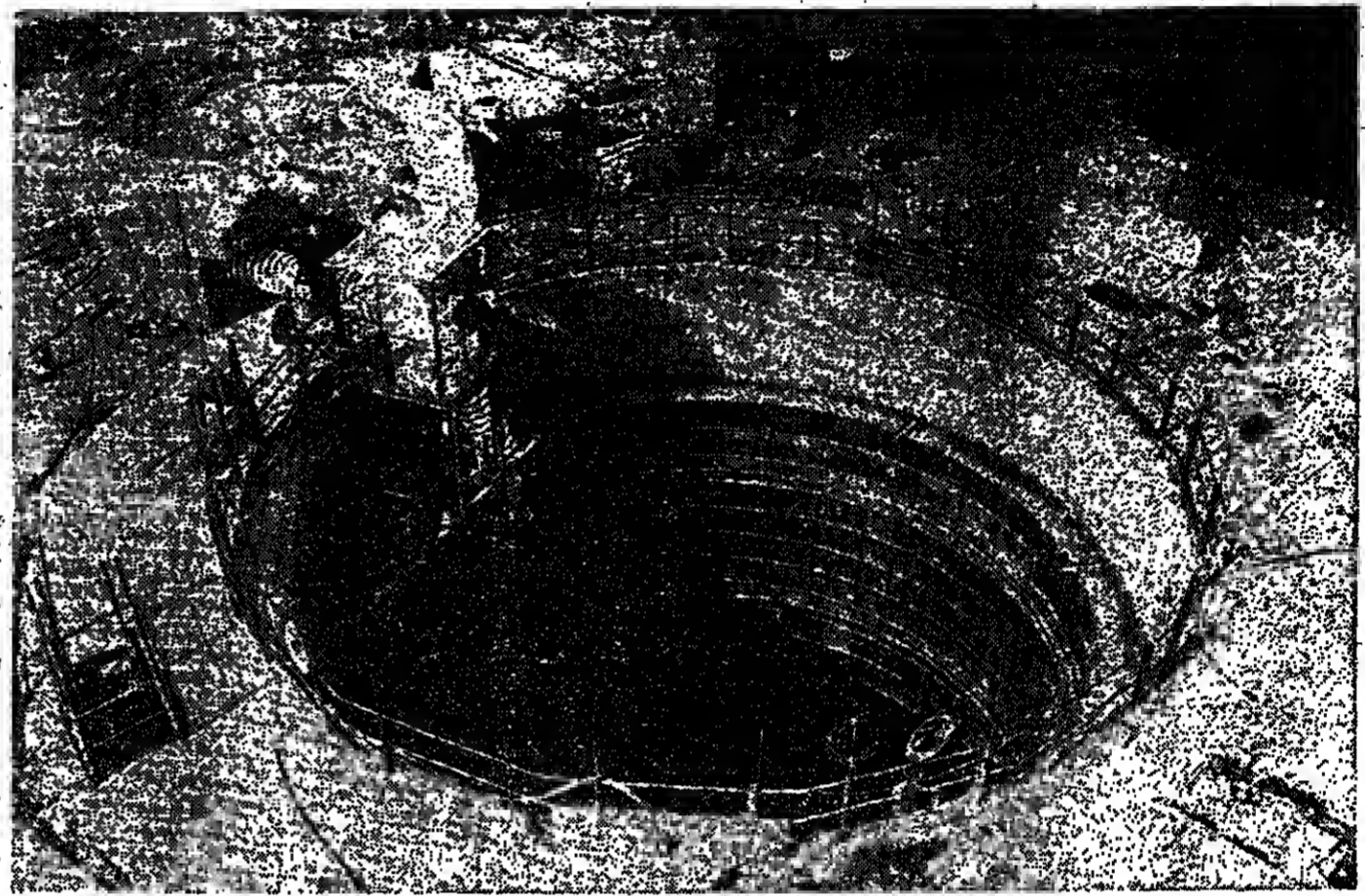
Presentation will be similar to the company's UK compendium, but with the addition of a section on plant and equipment. More on 03447 4121.

Another publication in this area is the "Saudi Arabia Construction Guide," a 700-page five-volume work published by

Building Management and Marketing, at £800 per copy. First published last year, the company says that such is the pace of developments in the area an addendum has had to be prepared which will be published shortly. It will cover changes in the past 12 months—for example, the Saudis have altered the conditions of tendering, and details are given in the addendum. More on 01-836 9484.

A £600,000 contract has been awarded to Derek Crouch by Lesney Products for an 80,000 square foot warehouse at Peterborough. Another £400,000 is to be spent on fitting out the warehouse and installing more equipment at Lesney's nearby factory.

A North West Water has awarded a £286,000 contract to Sork Controls for a centralised control system for Davy Hulme effluent treatment works, near Manchester.



The first shaft collar for the new Selby coalfield in Yorkshire is nearing completion. The collar is about 25 metres in depth and will be concrete lined before

## Excavation Roofing in S. Wales

THE WELSH Development Agency has awarded a contract worth almost £800,000 to Davies Middleton and Davies.

Within the six-month contract period the company has to excavate over 1m. cubic metres of peat, clay and rock and deposit the material to form a bund which will be constructed over berringtoned land-drains.

The site is adjacent to the Heads of the Valleys Road in Northern Gwent and comprises phase II of the Rassau Industrial Estate development.

In Swansea about 10,000 square

metres of mastic asphalt is to be laid on the roof of the Quadrant shopping development and about 6,000 square metres on the roof of the adjacent new Debenham store.

The first contract, for main contractor Thyssen (Great Britain), is worth £185,000 and the second, for main contractor John Laing, is worth £38,000.

Briggs Amasco is a member of the Tarmac group's building products division.

## Distributing the power

AMONG the first tasks to be undertaken when starting operations on a building site is the installation of an electrical power supply and distribution system.

Electrical power is essential for the operation of modern equipment which ranges from hand tools to tower cranes and one company specialising in power distribution systems for construction sites is Wysepower, a P & O Group subsidiary, which produces a wide variety of fully recoverable temporary electrical systems.

The company now claims to be offering the first British designed modular main electrical distribution unit to incorporate fully independent input and output sections.

The 1200 amp rated unit has been designed to meet the changing requirements of a construction site and is stated to meet fully the safety requirements of British Standard 4363.

Details of the equipment can be obtained from the company at 2, Grove Road, Everton, near Gamlingay, Sandy, Beds. (0767 50011).

## Design of factories

THE current issue of the Architect's Journal includes the first section of a Handbook of Factory Design which will be succeeded weekly by sections on various aspects of the subject.

The contents cover the following subjects: The industrial tradition; the basic knowledge of industry; appointment, briefing and the project team; site and development strategy; concept design, development and detailed design; planning and detailing industrial landscape; management and supervision and an index and bibliography. This work should be of considerable importance to the growing industrial building needs of the country as in addition to factories it covers pumping stations, dockside sheds, waste rebanding units and garages.

The handbook is being produced under the supervision of Jolyon Drury, an architect and consultant advising on the design of production and storage facilities.

H. A. N. BROCKMAN

## IN BRIEF

● The Doha Theatre in Qatar is to be supplied with film projection and sound equipment by EMI Pathe under a sub-contract from Rank Strand Electrical. Value of the order is £35,000. In Malawi, EMI Pathe is installing a public address system, lighting and projection equipment in the Kamuzu Theatre at the Institute of Youth and Culture at a cost of £49,000.

● Walter Lawrence and Son has been awarded a £3.6m. contract to construct research buildings within the existing Becham research centre at Harlow, Essex.

● Percy Bilton has been awarded a £266,000 contract by Peterborough Development Corporation to build Boongate—a road linking Peterborough city centre with a large industrial estate on the eastern side of the city.

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**BY DR. DAVID CARRICK**

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## FINANCIAL TIMES

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Monday October 10 1977

## Similar but different

THE Prime Minister and some of his colleagues would probably agree, at least in private, with a good many of the prescriptions contained in the latest Tory document on economic strategy. On the central issue of curbing inflation there is now a remarkable degree of consensus between the two major parties on the need for strict control of the money supply, firm cash limits on public expenditure and "responsible" wage bargaining. As it moves towards financial orthodoxy the present Government has even begun to steal some of the Tories' clothes: its new concern over the plight of the small businessman is one example. But this does not mean that the Tory Party is unable to present the electorate with a distinctive and credible set of policies. For the Conservatives, as their new document shows, the financial measures which have been adopted by the present Government under duress are part of a coherent programme for reviving the market economy. The Tories believe in the market economy: Labour's attitude to it is, at best, ambivalent.

## Tax reforms

Part of the Tory paper consists of proposals for a reform of the personal and corporate taxation system which would certainly not be acceptable to a Labour Government. The proposals include reducing the basic rate of income tax, raising the thresholds, widening the higher tax bands and reducing the higher rates of tax; these cuts will be financed in part by a switch towards expenditure taxes, a switch which we certainly support. At the same time the Tories are determined to enable many more people to acquire capital, through a reduction of penal imposts on incomes, savings and transfers. On industrial policy, too, the emphasis is on creating a "healthy environment for business enterprise, and away from Government tinkering. In the light of the record of the last Conservative Administration some of the comments about non-intervention may be regarded with scepticism. The paper represents an implicit rejection of the post-1972 activism associated with Mr. Peter Walker at the Department of Trade and Industry, but it

## Privileged

The paper states that if there were to be a direct political challenge "from within the ranks of organised labour" to a newly elected Conservative Government, it would be resisted "firmly and decisively," but the policies outlined in the document do not make such a confrontation seem inevitable or even likely. No doubt some trade union leaders will dislike the general tenor of the document and no doubt they would not enjoy under the Tories the privileged position which they have had under Labour, but it will be hard for them to argue that the proposals are against the interests of their members.

## Dr. David Owen goes to Moscow

DR. DAVID OWEN'S two days of talks in Moscow which begin to-day are not expected to produce concrete results in terms of new deals or agreements. This is a routine exchange of views provided for by the 1975 Anglo-Soviet protocol on consultations, which stated that Foreign Ministers should meet once a year. However, the timing of the visit is fortunate since it coincides with renewed activity both in East-West relations, and in the world's trouble spots like the Middle East and Southern Africa.

## Reasons obvious

In itself, this may be of no great significance since both the British and Soviet Governments have been extremely busy in the past 18 months. However, Britain is now conspicuous as the only major Western country which has never hosted Mr. Brezhnev.

Some reasons for this are obvious. The expulsion of the Soviet diplomats five years ago was a major setback in relations. The serious trade imbalance is a running sore which no end of British negotiations and nearly £1,000m. worth of credit have still failed to heal. And unlike the Soviet Union's relations with the U.S. and West Germany, Anglo-Soviet relations do not require the political flourish of an exchange of top level visits to show the world that things are getting better. From the British side, there were also far more important things to think about than the Soviet Union.

A further factor is undoubtedly the state of public opinion in Britain. The hostility which greeted the two most senior Soviet figures to come to London in recent years, Mr. Shelepin and Mr. Ponomarev, must have made a deep impression on Moscow, and it is

## Keep channels open

If Dr. Owen does get to see Mr. Brezhnev, therefore, and repeats the invitation, he is unlikely to get more than a polite smile. Indeed, it may even suit the Russians to be on less than excellent terms with Britain. The loss of their Press coverage of British affairs is hostile, particularly as regards the economic situation and Northern Ireland. Mrs. Margaret Thatcher has also become a butt for personal satire, something which is extremely unusual in the Soviet media.

Against this not wholly happy background, it is obviously a good thing that this week's high level meetings are taking place. It is also encouraging that both sides have taken the trouble to squeeze the visit into tightly packed programmes, particularly the Russians who seemed keen that the trip should come off. Even if London in recent years, Mr. Shelepin and Mr. Ponomarev, must have made a deep impression on Moscow, and it is

## THE WORLD STEEL CONFERENCE MEETS IN ROME TO-DAY

## Steelmakers in search of the missing boom

BY ROY HODSON

STEELMAKERS FEAR the coming winter. They are being carried into uncharted waters by currents they do not understand. Apart from the weakness in demand, structural weaknesses in the industry are no longer occurring.

In several countries are now becoming apparent. In the U.S., in particular, an official report to the Carter administration has stressed obsolescence in parts of the industry as a major problem.

In the western world demand for steel is falling when by the rules of the game, it should be rising. No device yet employed by the companies or governments has been capable of restoring international steel demand to the levels that ruled before the 1974-75 international trading recession. Nearly all the big producers are losing money.

The question how best to stave off the growing crisis which is engulfing western steelmakers will preoccupy the International Iron and Steel Institute conference for the leaders of the industry, which opens in Rome to-day.

Prominent among the 330 steel executives will be the heads of the world's 20 biggest steel companies responsible for the lion's share of the steel being made.

When last they met in Tokyo a year ago there was some optimism that demand for steel would improve dramatically within weeks or months. The conference ended on a cheerful note. But hopes were quickly dashed by the dismal winter for steel producers that followed.

This year the company leaders will be asking each other for ideas about how steelmaking can be restored to prosperity in a world market which is no longer properly understood by the supplying companies.

During 1977 the industrialised nations will make and sell only about 85 per cent. of the quantity they handled during the palmy days of 1973 and 1974 when western world steel output climbed over 40m. tonnes a month for the first time.

The despair of the steel salesmen about the present state of their order books is now accompanied by fear of unknown

horrors ahead — "unknown" because for the first time in the trading cycle of boom years and slump years upon which the industry has placed great reliance is no longer occurring.

When the demand for steel in Europe rose sharply during the late summer and autumn a year ago everyone sighed with relief and said the expected boom period of the cycle was appearing right on time. But it proved to be a false dawn. Demand slumped during the winter of 1976-77 to a world rate of some 35m. tonnes monthly, rallied weakly in the spring, and is now falling once again.

Steel companies which prepared themselves for a more protracted cycle following the events of the mid-1970s now doubt whether any reliable cycle exists to guide their planning for the future. All they know for certain is that it is a remarkable achievement to be running any steel plant at above its break-even production levels at the present time; and that for the future, as far as they can see, too much steel will be chasing too few orders.

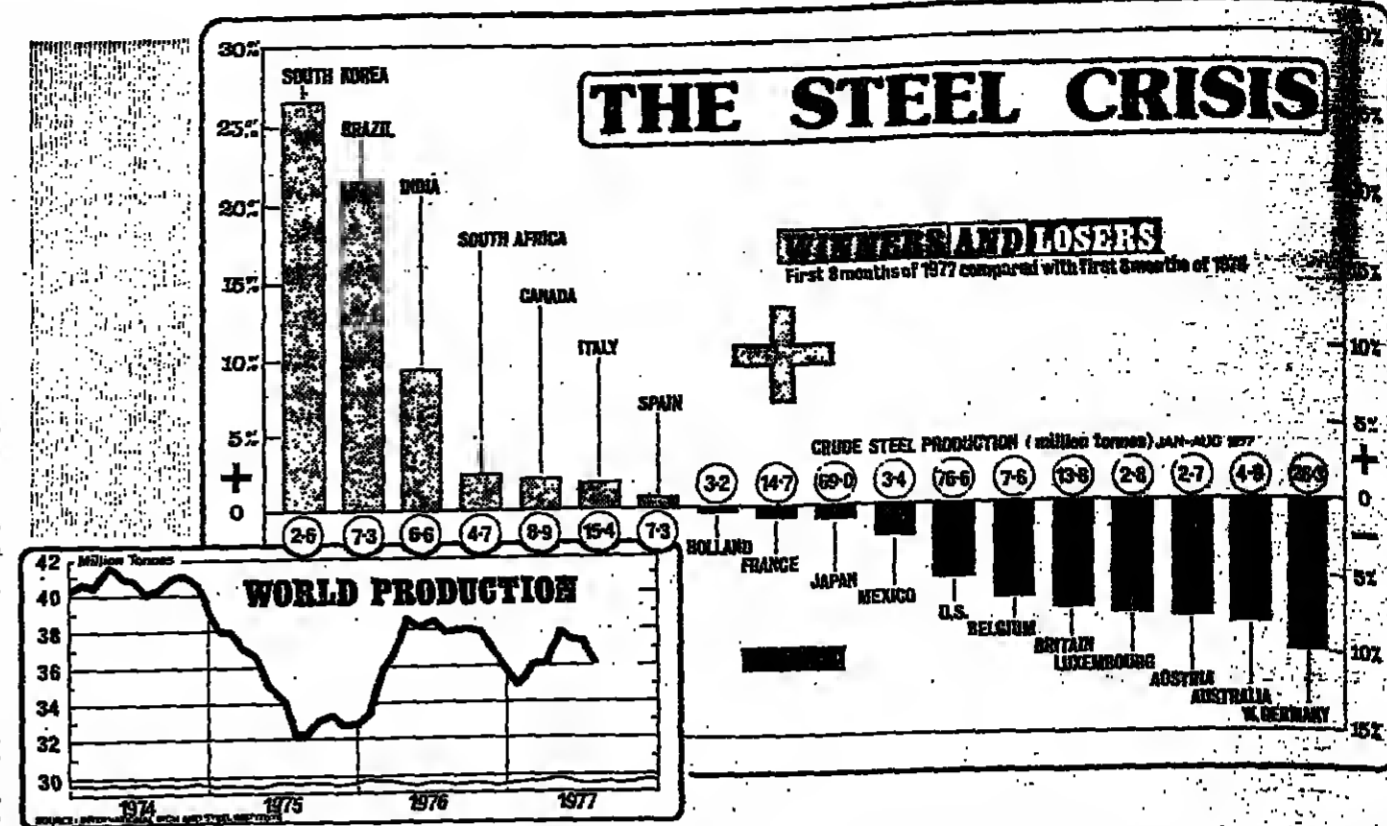
Measures being employed so far to arrest the rot—if not actually stop it—are at three levels:

● **COMPANY** action includes closing plants, laying-off workers, stock-piling steel in the hope of better times (an expensive business), price-cutting to hold on to local markets, and aggressive exporting at little or no profit.

● **GOVERNMENTS** of many industrialised countries have opened up files this year on alleged instances of foreign steel being dumped in their home markets. The latest and biggest case is the U.S. Treasury Department's action against imports of Japanese carbon steel plate into the U.S. Five of Japan's largest steel companies—Nippon Steel, Nippon Kokan, Sumitomo, Kawasaki, and Kobe—are having to suffer the ignominy of providing funds to cover estimated dumping duties while the U.S. Government investigates the situation.

● **AT INTERNATIONAL** level the Organisation for Economic Co-operation and Development, and the European Community, have both energetically tackled the deteriorating international steel situation but—so far—with depressingly few positive results.

Vicomte Etienne Davignon, EEC Industry Commissioner, started a personal crusade almost a year ago to save the Community's steel industry and revitalise it. But EEC steel production is still falling. Furthermore, there is no sign that the



fundamental rationalisation of the industry which he is seeking is actually being translated from noble thoughts into action.

The OECD, in recent months, has been assembling a ponderous collection of "crisis" analyses of the steel situation on a country-by-country basis. But when the OECD steel crisis committee met in Paris two weeks ago it had to bow to American pressure for strong action. It settled for establishing an international steel trade monitoring system; an American device designed to restrict international trading, and comparable in certain respects to that other basically American concept, the GATT fibres agreement.

The three flash-points in the world steel crisis are the U.S., European markets, and the Japanese producers.

Britain and many Governments of other steel-producing nations would have preferred to limit the damaging effects of too much steel looking for too few customers by arriving at a series of individual agreements with the big steel-exporting countries. But the U.S. domestic market—traditionally rather insulated from world steel trading storms—is now being hit sufficiently hard by Japanese steel for the Americans to insist on the hard line policy of a monitoring agency.

The European countries are also worried about Japanese steel. But they do not allow the threat from the massive and modern Japanese steel plants to overshadow the

dangers from other countries now selling vigorously into Britain and Europe.

The accompanying chart shows the winners and losers in the international steel business this year. The big industrialised nations have, with the exception of Italy, all suffered from continuing falls in demand for their steel. In contrast smaller nations which have rapidly built up their steel industries and have big surpluses to export—Brazil, India, South Africa, South Korea, Spain—have been increasing production. It is their steel which is fighting it out in the European markets against European products.

British Steel's acute problems and the political attention being given to them in Britain ensure that its chairman, Sir Charles Villiers, will be a key figure in Rome.

The entire British Steel strategy for a modern industry producing 30m. tonnes plus a year in the 1980s is based on exporting some 20 per cent. of production. But Whitehall is now advising the Government that it could be bad business for Britain to attempt to enter into heavy steel exports at low prices for years ahead. If, as seems likely, British Steel is told by Government to forego some of its world marketing ambitions then, clearly, its expansion programme can be trimmed commensurately and billions of pounds saved.

Other international steelmakers are anxious to know whether British Steel is determined to retain its position as third in the world steelmaking league. Or whether the corporation and the Government will conclude that a more modest ranking in the future would be more appropriate—and also better business. The price of a smaller British Steel would be the scrapping of new steelworks projects in Scotland, South Wales, and the Midlands.

British Steel is strong in one respect which will encourage its makers. Certainly steel will start to sell again as soon as the best users—public works, highway bridge construction, ship-building, industrial plants—come back into the market. But there are alternative materials in plenty to challenge steel in those applications. Aluminium, unlike steel, is already about back to its pre-1975 growth rate of 7 to 8 per cent. a year. Plastics are proving attractive materials for some work. Final new design techniques indicate a trend towards using smaller tonnages of higher quality steels. Things may never be the same again for the steel makers.

## Special case

Italy, as indicated, is a special case. Its production of steel has increased by nearly 2 per cent. so far this year—against all Community trends. This is because the small steelmakers of Northern Italy ("the Bresciani" as they are dubbed by competitors) are now producing up to 7m. tonnes a year and appear to be ignoring recommendations from Brussels on minimum prices.

The troubles of the state-owned British Steel Corporation have had a public airing recently. Losses are now approaching £1m. a day while the corporation is at its borrowing limits and must rely totally upon the Government to finance its £600m.-a-year new investment programme.

## MEN AND MATTERS

## The Divine Right of habit

"During my lifetime, all the leaders of the Conservative party have served as Prime Minister. I hope that habit will continue." These are the first words one comes across upon opening the latest bound volume of the selected speeches of Margaret Thatcher entitled, rather oddly I thought, "Let our children grow." The words reflect a sentiment which will no doubt be widely shared among passengers on to-day's 12-15 train to Blackpool, specially chartered to carry delegates in first class coach to what may well turn out to be the last party conference before general elections.

By tradition Conservatives have to sit out the whole week before hearing their leader make the final summing up speech at the close of proceedings. That of course helps to keep up enthusiasm which by the nature of things tends to flag towards the end of a week's speech-making and manoeuvring.

But one thing the Conservatives will not have this year to rouse a hit of enthusiasm in the middle of the week is a stirring speech from a distinguished, like-minded foreign politician. Apparently a lot of head scratching did go into the business of inviting such a speaker—but the fact is that there just are not many foreign conservative politicians around who fit the bill. Malcolm Fraser, the Prime Minister of Australia, was one who sprang to mind—but this is not the season for antipodean politicians to travel. It is getting nicely warm down under and anyway Fraser has his own problems at home at the moment.

Mrs. Thatcher for one is very aware of the need for closer link-ups between the Conservative party and like-minded parties and politicians in Europe. She would have liked

a prominent European conservative to have come and it is believed that overtures were made to Jacques Chirac, the new Mayor of Paris, and advocate of a strong anti-Left line. He is sending a representative but could not come himself. There is however considerable satisfaction that Ted Heath has agreed to give the annual Conservative Political Centre lecture on Europe.

The CPC lecture is after all considered to be the second highlight of the week and will serve to underline party unity as well as commitment to Europe, Tories hope.

Before the conference proper begins, however, young Conservatives and students will have the chance of bearing Bishop Abel Muzorewa, President of the United National Council of Zimbabwe. What he is likely to tell them is not likely to be appreciated by those party diehards whose motions backing "good old Smithy" are still to be found in considerable numbers in this year's conference agenda.

## Sweet Adeline

One of the oddest photographs of the Albert Memorial I have ever seen is that taken during the war when this Victorian gothic masterpiece rose majestically from a field of potatoes and cabbage.

Now the memorial has been chosen by 5,000 American ladies as the ideal spot to give a free concert. The ladies in question call themselves the Sweet Adelines and they describe themselves as "an international organisation of women devoted to the joys of singing both for ourselves and for others." What they seek to do is to "harmonize the world."

More prosaically a colleague described them as essentially the female equivalent of American barbershop singers and, apart from their free concert, the ladies will also fill



Albert Hall itself "with barber-shop chords." Poor old Albert, the things he has had to put up with.

## Showbiz

President Albert René of the Seychelles, who seized power four months ago in what was described as a left-wing coup, was at pains to make clear after the coup that revolution or not, foreign investors were still welcome.

Showbiz appears to have taken him at his word. The latest development on the islands is a decision by Sorrento Estates to build a 400-bed luxury hotel at Intendencia Bay on the main island, Mahé. Major shareholders in Sorrento Estates are Peter Sellers and former Beatle George Harrison.

What is more the Seychelles is now to have its own airline. It will not, however, have its own aircraft. Although it is being designated the national carrier of the Seychelles it seems that negotiations are now under way with other airlines such as British Airways to fly into the Seychelles on its behalf.

## Hungary joke

Janos has saved 2,000 forints and is persuaded to deposit it at the National Bank. A suspicious man, he asks what would happen if the bank went bust.

"No need to worry," comes the reply. "We are backed by the entire resources of the People's Republic of Hungary."

"But," says Janos, "what happens if the People's Republic of Hungary goes bust?"

"No need to worry. Hungary is backed by the mighty resources of the Soviet Union."

Janos scratches his head. "But just supposing the Soviet Union went bust?"

Replies the bank: "Then you will have got your money's worth."

## Hail stiletto

Look to your linoleum, office managers. The stiletto beetle—killer of carpets and puncturer of parquet—is back from a 10-year sojourn in the fashion wilderness. Or at least, it will be back by next spring, according to the trend spotters of Shoe and Leather News.

The platform clumpy is at last on the way out. "Ripped rubber" is distinctly on the up. But for the young who follow fashion, in the words of an hysterical Shoe and Leather News headline writer "Strippy strap stiletto with smart soffee leather casual is the scene."

## ... and an occasional polish

Note in the instructions for use packed with a Japanese model steam engine on sale in London: "This model is moderately built to last a lifetime. It requires no lubrications except oil on working parts."

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FINANCIAL TIMES

# Eurobond Quotations and Yields

AIBD

THE ASSOCIATION OF  
INTERNATIONAL BOND DEALERS

At 30th SEPTEMBER, 1977

● The Association of International Bond Dealers (AIBD) compile current market quotations and yields for Eurobond issues. These quotations and yields are published monthly by the Financial Times. The Association's prices and yields

are compiled from quotations obtained from market-makers on the last working day of each month: there is no single stock exchange for Eurobonds in the usually recognised sense—secondary market trading business is done on the telephone

between dealers scattered across the world's major financial centres. Membership of the AIBD, which was established in 1969, comprises over 450 institutions from about 27 countries. A key to the tables is published opposite.

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## Eurobonds in September

By MARY CAMPBELL, Euromarkets Editor

In retrospect it may be that August will be seen as the calm before the storm and September as the beginning of the 1978 cyclical bear market in Eurobonds. The U.S. dollar sector of the Eurobond market has seen too many sharp shifts of sentiment this year to make any forecasts with conviction but, as of now, it is looking on the dark side of the future.

The position at the end of August was that inter-bank interest rates were about the same as at the beginning of the month, having risen sharply in mid-month only to fall back again. Although there had been a weak period in Eurobonds in mid-month to coincide with the higher inter-bank rates, the market was not expecting a sharp break in September.

Although the low level of new issue volume was assumed to have helped the market in August (and in July for that

matter) it was also assumed that what this low level of activity meant was that there was a pent-up supply of potential funds to go into Eurobonds when new issue activity started up again in earnest as it was expected to do in September.

In the event, there has been little sign of this pent-up supply of funds. The new issue calendar has not been light in September but, on the other hand, it has not been as heavy as earlier this year. With hindsight it is assumed that a lot of the funds were not simply sitting waiting to go into Eurobond issues but were in fact being invested elsewhere. The British gilts market is cited as one culprit, anything denominated in Swiss francs as another. Insofar as the funds stayed in dollars it is argued that they went into bank deposits rather than bonds.

Of the various factors which pushed

the market significantly weaker in September, two in particular are widely cited. One is that Eurodollar interest rates really did go up properly. Having taken six months to rise 14 points, the six-month Eurodollar rate went up by half a point in September alone.

The other was the weakness of the dollar, particularly against the Swiss franc. The dollar has been falling steadily against the Swiss franc since March. But having fallen 54 per cent between March and the end of August it proceeded to fall 24 per cent in September alone (it has fallen further since then).

It is argued now that the most significant result of these circumstances was a total dearth of buying interest in Eurodollar bonds. No one was actually selling in any significant size.

The lack of buying interest meant problems particularly for new issues in the dollar sector. Many of last month's new issues were priced at a discount and not one proved scintillating in the after-market.

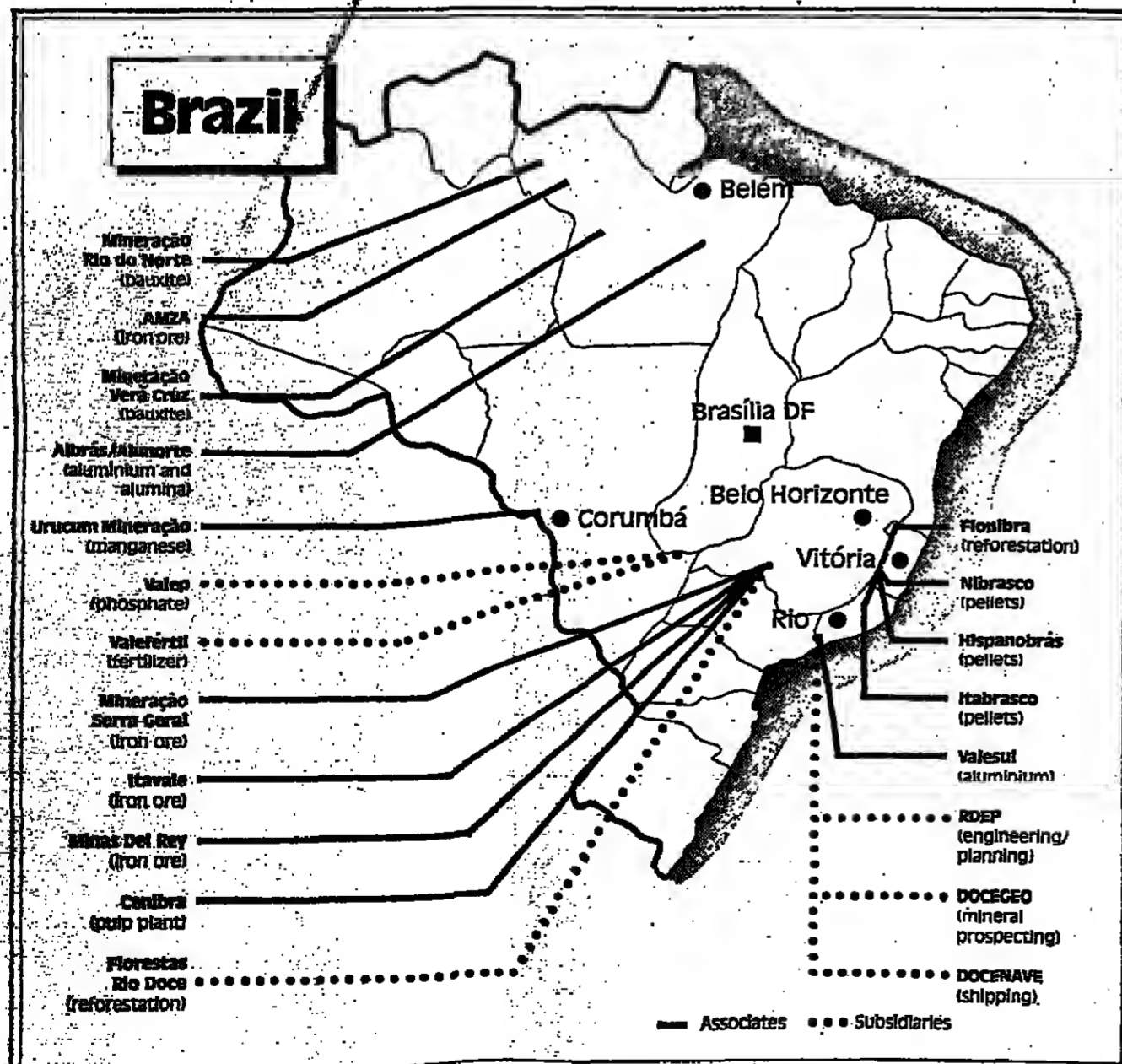
The two largest issues, for the European Coal and Steel Community and Citicorp, in particular performed badly.

Except insofar as both borrowers are rated triple-A and the issues were big there could hardly have been two more dissimilar issues. One borrower is a European supra-national institution, the other a prime U.S. Corporation. The issue for the ECSC was two tranches of 12 and 20 years, while Citicorp's offering was two tranches of three and four years.

The pricing of the ECSC issue precisely straddled the moment when market sentiment switched from basically firm to basically bearish. So strong had the apparent demand for the issue been during the offering period that both tranches were priced at steep premia; and the fact that the coupon was not cut was regarded as a concession. However in the immediate after-market it sank to the limit of the selling group discount.

The performance of the Citicorp issue was considerably weaker. This fell to a discount of two points in after-market trading—larger in real terms than might appear since the selling group discount was smaller than usual and the maturity so short.

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P.T. Private Development Finance Company of Indonesia, Jakarta City Bank, Hawaii

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No. 1234  
Date: 1/1/1912  
To: Mr. J. B. Smith  
From: Mr. A. B. Jones

SECTION 1  
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 SECTION 5

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Days since start of study (X)	Days since last rainfall (Y)
0	10
1	9
2	8
3	7
4	6
5	5
6	4
7	3
8	2
9	1
10	0

[illegible]

**Market Maker in Austrian Eurobonds**  
 Manager Securities Trading Department: Karl ULLMACK, Tel.: 72 94 760, Telex: 1-3195 - Deputy Manager, Eurobond Dealer: Manfred LILL, Tel.: 72 94 772, Telex: 1-3195 - Eurobond Dealer: Herbert STEINBOKER, Tel.: 72 94 675, Telex: 1-3195 - Austrian Schillingbonds Dealer: Herbert MERINGLER, Tel.: 72 94 372, Telex: 1-3195 - Manager New Issue Subscriptions: Peter NOWAK, Tel.: 72 94 634, Telex: 1-3195

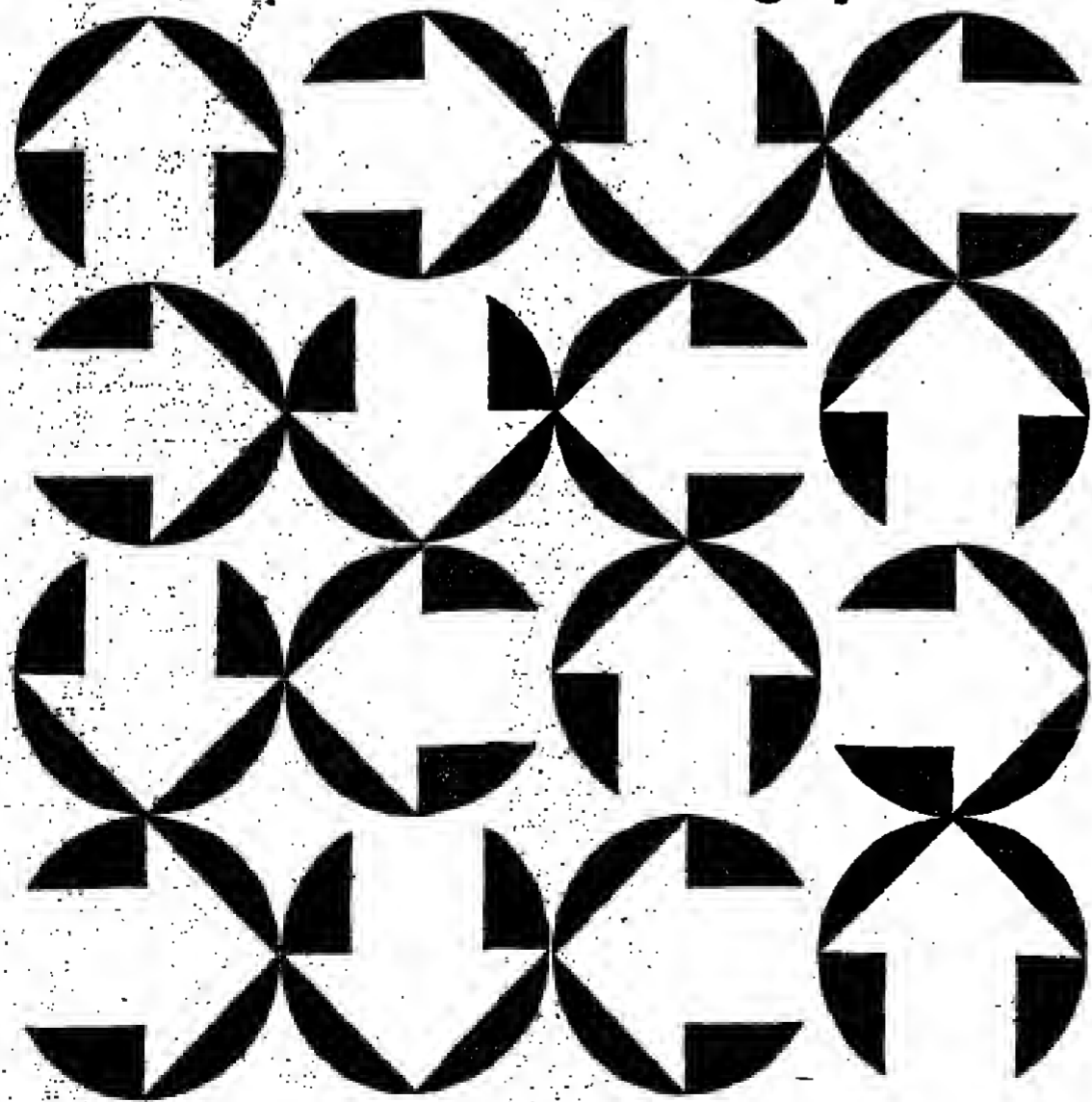
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ESTIMATED D/C (MM)	ISSUE/PRICE	YIELD/FISURE	BORROWER/ COUPON/MATURITY	PRICE	LIFE/ AVERAGE USE	REDEMPTION METHOD/MATURITY	CURRENT YIELD	NETAL PRICE/ RETAIL (WID)	NETAL PRICE/ RETAIL (WID)	NETAL PRICE/ RETAIL (WID)	MARKET MAKERS
20.00	1976	8.50	12/1/1986	101 1/8	9.11	9.39	181.50	1981 57 21	105 301 510 711 715		
20.00	99.50	9.50	12/1/1986		6.81	9.27	3.60	1941 15	735 935 941 950 955 960		
20.00	1976	8.50	12/1/1986	100 3/4	5.97	6.78	106.00	1981 57 21	105 301 510 711 715		
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20.00	1976	8.50	12/1/1986	99 1/4	5.96	6.14	7.91	101.00	1981 57 21	105 301 510 711 715	
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20.00	1976	8.50	12/1/1986	99 1/4	5.96	6.14	7.91	101.00	1981 57 21	105 301 510 711 715	
20.00	99.50	9.50	12/1/1986		6.19	6.39					
20.00	1976	8.50	12/1/1986	99 1/4	5.96	6.14	7.91	101.00	1981 57 21	105 301 510 711 715	
20.00	99.50	9.50	12/1/1986		6.19	6.39					
20.00	1976	8.50	12/1/1986	99 1/4	5.96	6.14	7.91	101.00	1981 57 21	105 301 510 711 715	
20.00	99.50	9.50	12/1/1986		6.19	6.39					
20.00	1976	8.50	12/1/1986	99 1/4	5.96	6.14	7.91	101.00	1981 57 21	105 301 510 711 715	
20.00	99.50	9.50	12/1/1986		6.19	6.39					
20.00	1976	8.50	12/1/1986	99 1/4	5.96	6.14	7.91	101.00	1981 57 21	105 301 510 711 715	
20.00	99.50	9.50	12/1/1986		6.19	6.39					
20.00	1976	8.50	12/1/1986	99 1/4	5.96	6.14	7.91	101.00	1981 57 21	105 301 510 711 715	
20.00	99.50	9.50	12/1/1986		6.19	6.39					
20.00	1976	8.50	12/1/1986	99 1/4	5.96	6.14	7.91	101.00	1981 57 21	105 301 510 711 715	
20.00	99.50	9.50	12/1/1986		6.19	6.39					
20.00	1976	8.50	12/1/1986	99 1/4	5.96	6.14	7.91	101.00	1981 57 21	105 301 510 711 715	
20.00	99.50	9.50	12/1/1986		6.19	6.39					
20.00	1976	8.50	12/1/1986	99 1/4	5.96	6.14	7.91	101.00	1981 57 21	105 301 510 711 715	
20.00	99.50	9.50	12/1/1986		6.19	6.39					
20.00	1976	8.50	12/1/1986	99 1/4	5.96	6.14	7.91	101.00	1981 57 21	105 301 510 711 715	
20.00	99.50	9.50	12/1/1986		6.19	6.39					
20.00	1976	8.50	12/1/1986	99 1/4	5.96	6.14	7.91	101.00	1981 57 21	105 301 510 711 715	
20.00	99.50	9.50	12/1/1986		6.19	6.39					
20.00	1976	8.50	12/1/1986	99 1/4	5.96	6.14	7.91	101.00	1981 57 21	105 301 510 711 715	
20.00	99.50	9.50	12/1/1986		6.19	6.39					
20.00	1976	8.50	12/1/1986	99 1/4	5.96	6.14	7.91	101.00	1981 57 21	105 301 510 711 715	
20.00	99.50	9.50	12/1/1986		6.19						

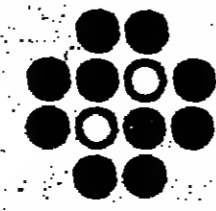
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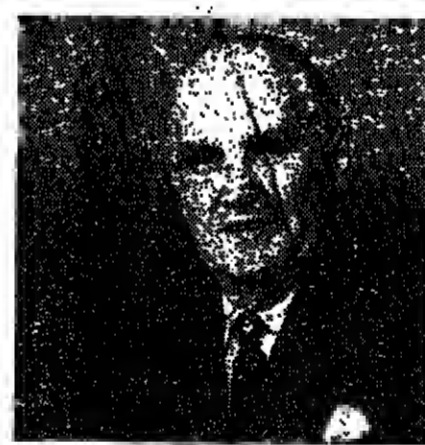
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international  
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45 a, avenue monterey  
p.o. box 1006  
luxembourg  
téléphone 29921  
télex 2791/2/3/4



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**SIR IAN McLENNAN**

# BHP ANNUAL MEETING

# "New projects, new markets"

**- SIR IAN McLENNAN**

BHP Group Results — 1977		
Year ended 31st May	1977 \$000	1976 \$000
Group sales .....	2 147 252	1 842 504
Profit from trading before fixed asset utilisation .....	524 476	462 038
Deduct fixed asset utilisation .....	260 323	221 681
Add dividend income .....	8 735	5 246
Deduct interest expense .....	64 243	51 075
Deduct income tax expense .....	136 872	128 885
Net profit before extraordinary items .....	71 773	65 843
Deduct extraordinary items .....	411	268
Net profit after extraordinary items .....	71 362	65 375
Deduct net profit attributable to other shareholders in subsidiary companies .....	7 747	1 812
<b>NET PROFIT APPLICABLE TO BHP SHAREHOLDERS .....</b>	<b>63 615</b>	<b>63 563</b>
The fixed asset utilisation charge includes fixed asset value adjustment of .....	106 874	90 101

Four major developments, each involving BHP in new markets and new technology were outlined by the company's Chairman, Sir Ien McLennan, at the annual meeting held in Melbourne on Tuesday, September 27, 1977. These are some of the highlights of his address—

## Business Outlook

"We now recognise that the world steel industry is passing through its worst depression since the 'thirties... and economic recovery is proving to be slower and more painful than many had expected. We see a reduction of unemployment and a desirable increase in national productivity as stemming largely from the conditions in which there is a substantial increase in private investment and an unmanageable rate of inflation will always hinder this."

### Major Coal Interests

"We now have a significant place in Australia's coal export business, obtained through our purchase of the Peabody interest in what is now Thiess Damper Mitsui Coal Pty Ltd, (TDM) and also through our newly obtained contracts with Japanese steel mills for coal from our Gregory mine development. We believe that there is scope for the further expansion of the TDM mines. The Gregory coal project is based on a high quality deposit further to the north-west in the Bowen basin, near Emerald. It was discovered in the course of the Company's own exploration programme."

### North West Shelf

"The North West Shelf project will be, without qualification, the largest resource development ever undertaken in Australia. If it goes ahead, it will involve investment by the partners in excess of \$2 000 000 000 over five years, with up to 5000 people engaged in construction.

**Ok Tedi Copper**

"In the context of new projects, I should also refer to the feasibility study of the copper prospect at Ok Tedi, in the Star Mountains in Papua New Guinea . . . the study is to be completed by May 1979. It is unlikely that any final decision on the project will be taken before 1980 . . ."

## Taxation Changes

The announcement in the budget speech of an increase in the rate of company tax by 3.5 cents in the dollar to 46 cents in the dollar was extremely disappointing. This change represents an 8.2 per cent increase in tax and it must be recognised as a heavy burden

on the corporate sector

**Accounting for Inflation**  
 "For the first time, the inflation adjustment applied to our accounts for one year was more than \$100 000 000. There are many facets to the problem of accounting for inflation — the basic issue of funding the replacement of assets, the interests of shareholders, and the corporate environment in which we operate are a few of them. These are continually under review."

## Steel Outlook

"In the shorter term, there are some indications of an upturn in ordering rates by Australian steel customers particularly over the last couple of months. Import competition within Australia remains severe, affecting chiefly our associated companies, so that their calls on us for feedstock are reduced. The Steel Industry Section recorded a net loss of \$56 701 000 for the year, but profit before deducting our special administration charge, Fixed Asset Valuation Adjustment, was \$18 089 000, a 15 per cent increase on the comparable figure for the previous year."

## Minerals Profit Up

"The Minerals Industry Section reported a net profit of \$27 540 000 which was 15 per cent higher than the previous year. This was after providing a Fixed Asset Value Adjustment of \$13 559 000. Overall, exports totalled \$252 600 000, which was 70 per cent higher than the previous year."

### New Bass Strait Fields

**"The new Bass Strait fields, Meck-**

duction in 1978 and 1979 respectively. The principles applied by the Government in establishing a new crude oil price policy should achieve the twin aims of gradually bringing Australian crude prices into line with world markets, while cushioning the inflationary impact."

### Employee Relations Progress

**Employee Relations Progress**  
 "During the year increased attention has been given to the area of employee relations throughout the Group. All sections of senior management are involved . . . we have had the assistance of leading consultants in the field. The search for improved communications and understanding among men and women working in industry is one of the most important matters we have before us . . ."

## Board Changes

"I will be retiring on 30th November next. You will then have a new Chairman in Mr J. C. McNeill, and Mr B. T. Loton will take up the position of Chief General Manager . . . they will give the Group the leadership that will be needed to carry through the huge projects we have in hand. They have my very best wishes for the future."

*Printed copies of this address are available from:*  
The Secretary  
The Broken Hill Proprietary  
Co. Limited  
BHP House  
140 William Street  
MELBOURNE 3008 AUSTRALIA

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Bache Halsey Stuart Shields <small>Incorporated</small>	The First Boston Corporation	Basile Securities Corporation	Blyth Eastman Dillon & Co. <small>Incorporated</small>
Dillon, Read & Co. Inc.	Drexel Burnham Lambert <small>Incorporated</small>	EuroPartners Securities Corporation	Goldman, Sachs & Co.
Hornblower, Weeks, Noyes & Trask <small>Incorporated</small>	E. F. Hutton & Company Inc.	Kuhn Loeb & Co. <small>Incorporated</small>	Lazard Frères & Co.
Lehman Brothers <small>Incorporated</small>	Loeb Rhoades & Co. Inc.	Merrill Lynch, Pierce, Fenner & Smith <small>Incorporated</small>	Nomura Securities International, Inc.
Paine, Webber, Jackson & Curtis <small>Incorporated</small>	Reynolds Securities Inc.	Salomon Brothers	Smith Barney, Harris Upham & Co. <small>Incorporated</small>
SoGen-Swiss International Corporation	UBS-DB Corporation	Warburg Paribas Becker <small>Incorporated</small>	
Wertheim & Co., Inc.	White, Weld & Co. <small>Incorporated</small>	Dean Witter & Co. <small>Incorporated</small>	
Arnhold and S. Bleichroeder, Inc.	Bear, Stearns & Co.	L. F. Rothschild, Unterberg, Towbin	
Shearson Hayden Stone Inc.	Weeden & Co. <small>Incorporated</small>	Wood, Struthers & Winthrop Inc.	
Alex. Brown & Sons	Cazenove Incorporated	Robert Fleming <small>Incorporated</small>	Kleinwort, Benson <small>Incorporated</small>
Moseley, Hallgarten & Estabrook Inc.			
New Court Securities Corporation	Oppenheimer & Co., Inc.	R. W. Pressprich & Co. <small>Incorporated</small>	Scandinavian Securities Corporation
Thomson McKinnon Securities Inc.	Tucker, Anthony & R. L. Day, Inc.	Wood Gundy Incorporated	A. E. Ames & Co. <small>Incorporated</small>
Bateman Eichler, Hill Richards <small>Incorporated</small>	William Blair & Company	J. C. Bradford & Co.	Burns Fry and Timmins Inc.
Crowell, Weedon & Co.	Dain, Kalman & Quail <small>Incorporated</small>	Daiwa Securities America Inc.	Dominion Securities Inc.
Fahnestock & Co.	First of Michigan Corporation	Loewi & Co. <small>Incorporated</small>	McDonald & Company
The Nikko Securities Co. <small>International, Inc.</small>			
Piper, Jaffray & Hopwood <small>Incorporated</small>	Pitfield, Mackay & Co., Inc.	Prescott, Ball & Turben	
Rauscher Pierce Securities Corporation	The Robinson-Humphrey Company, Inc.	Rotan Mosle Inc.	
Shuman, Agnew & Co., Inc.	Stern Brothers & Co.	Wheat, First Securities, Inc.	Yamaichi International (America), Inc.
Adams & Peck	Craigie Incorporated	Ferris & Company <small>Incorporated</small>	Freeman Securities Company, Inc.
Investment Corporation of Virginia	Janney Montgomery Scott Inc.	Lepercq, de Neufville & Co. <small>Incorporated</small>	Parker/Hunter <small>Incorporated</small>
Stone & Youngberg	Thomas & Company, Inc.	Burton J. Vincent, Chesley & Co.	

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ISSUES ESTIMATED (MIL)	YEAR OF ISSUE	BORROWER/ COUPON MATURITY	PRICE	LAST AVERAGE LIFE	YIELD TO MATURITY/ YIELD TO AVERAGE LIFE	CURRENT YIELD	NOMINAL PRICE NEXT PAYMENT (MID)	INST CALL DATE/ FIRST PAY DATE	SECURITY GUARANTEE LENDING	LEAD MANAGER	MARKET MAKE
8.00	1960	ENRO-GREECE	11.10	99 7/8	5.24	8.64	6.41	101.00	1978 PG EN 359	715 960 965	
1.20	85.75	6.50 2/ 2/1980 5		1.34	8.70			1.30	1964 LUKK		
15.00	1971	HEL INT FIB	8.3647	105 5/8	8.84	7.43	7.72	101.50	1978 PG EN 359	305 960 965	
15.50	100.00	8.00 1/ 8/1986			8.84	7.08		1.50	1977 LS		
10.00	1972	HEX ESTATE & PROP	7.750	94 1/2	8.67	7.54	7.16	103.00	1978 PG EN 346	307 960 965	
8.80	95.75	6.75 15/ 8/1987			8.09	7.82			1973 LM		
10.00	1965	MUTEL OIL BELGS	11.17	101 1/2	5.71	5.21	5.75	101.00	1978 PG EN 359	960 965	
3.00	87.00	5.75 15/ 8/1980 0			5.77	6.08		1.00	1971 AMULK		
7.00	1967	NEW ZEALAND	11.11	101 1/2	4.43	4.46	6.76	102.00	1978 PG EN 359	307 960 965	
2.71	97.70	8.75 14/ 3/1982 8			2.47	6.10		.54	1970 LAMOFF		
0.00	1968	KIN ZEALAND	9.63	100 5/8	.39	5.70	7.59		1978 KE EN 350	960 965	
1.20	95.50	7.50 5/ 2/1978 8			.28	5.70		1.20	1974 LAMOFF		
7.00	1964	REP OF IRELAND	11.36	100 3/8	5.42	6.83	8.97	101.50	1978 PG EN 359	960 965	
5.51	97.75	7.00 1/ 3/1981			1.83	6.10		.50	1970 LAMOFF		
12.50	1973	REP OF IRELAND	7.8505	100 3/8	10.28	6.94	8.97	101.75	1978 PG EN 359	307 960 965	
12.50	98.00	7.00 15/ 1/1980 0			5.78	6.92		1.25	1979 LM		
20.00	1975	WORTHAM EIT	7.60	90 1/2	14.79	7.52	6.21	103.50	1978 PG EN 359	307 960 965	
100.00	8.25	30/ 0/1981							1 LM		
8.00	1968	WIRA-EUSS	9.65	102	5.43	6.47	7.23	100.00	1978 SC EN 345	960 965	
2.74	96.00	7.25 1/ 1/1980 5			5.44	6.70		.40	1971 LAMOFF		
9.00	1971	GLATTA VALLEY	8.40	85	6.63	9.01	0.71	102.25	1978 PG EN 345	961 925	
7.10	100.00	7.25 15/ 5/1981 6			5.44	11.28		.30	1975 LM		
4.00	1965	WASPIAN LANGO	11.14	100	2.67	5.83	5.83	101.00	1978 PG EN 359	960 965	
1.00	96.15	9.75 1/ 8/1980 5			1.87	5.33		.10	1969 LUKK		
5.00	1965	W.O. BURKE INTL	11.10	100 3/4	2.83	5.78	8.04	100.50	1978 PG EN 315	960 965	
1.50	97.00	8.00 31/ 7/1980 8			1.83	5.84		.50	1871 LUKK		
		AUSTRALIAN DOLLAR/USD									
35.00	1971	BURKE & CHAMPAGNE BANK	100		9.87	6.60	8.61	101.50	1980 PG EN 318	307 946 980 975	
35.00	100.00	8.50 15/ 8/1987 8			9.17	6.00		3.00	1978 LM		
		EXTERNAL STERLING ISSUES									
30.00	1972	AMCO INT FIB	81 7/8	9.58	9.50	8.71		100.25	1980 PG EN 317	456 500 960 975	
8.75	95.00	8.00 1/ 5/1987			8.44	8.76		.50	1974 LM		
		SPECIAL GRAMMID RIGHTS									
50.00	1975	ALLENBURY INT	105 1/8	7.71	7.24	8.64		102.00	1978 PG EN 317	500 805 975	
175.00		9.00 15/ 6/1980						2.5			
50.00	1975	ELECTRICITE DE FRANCE	104	5.75	8.10	8.65		100.00	1980 PG EN 318	520 885 975	

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ISSUED/ESTIMATED D.D. YEAR OF ISSUE/ISSUE PRICE	BORROWER/COUPON MATURITY	BOND PRICE/SHARE PRICE	CURRENT YIELD/ANNUAL YIELD	YIELD TO MATURITY	CONVERSION PRICE/DATE OF CONVERSION	PREMIUM/DISCOUNT	SECURITY/LENDING	MARKET MAKERS
30.00 1980 GULF & HERBERT LTD	81 1/2 0.13 7.65	91.46	8.34	8.34	PC 37 35 820 800 910 935			
49.00 100.00 3.00 1/2 1/1988	11 7/8 5.56 3.60	1/ 1/1988			STURER 940 960 975			
15.00 1972 HANSEN LTD FIN	13 7/8 4.04 3.00	80 30.33	-2.41	PC 37 35 820 800 910 935				
15.00 100.00 3.00 1/2 1/1992	10 1/2 2.08 15.00	29/12/1972			PC 37 35 820 800 910 935			
15.00 1970 HOLIDAY TRAVEL LTD	100 3/4 4.10 8.03	80 25	147.46	PC 37 35 820 800 910 935				
10.00 100.00 3.00 1/2 1/1981	14 1/4 3.86 8.20	1/ 1/1981			PC 37 35 820 800 910 935			
30.00 1971 HUNTERCAP LTD	90 5/8 6.62 7.49	81 120	132.62	PC 37 35 820 800 910 935				
30.00 100.00 3.00 1/2 1/1988	46 3/4 3.42 9.70	1/ 1/1988			PC 37 35 820 800 910 935			
30.00 1968 HUNTERCAP LTD	89 3/4 5.65 7.47	80 103 1/8	98.22	PC 37 35 820 800 910 935				
10.00 100.00 3.00 1/2 1/1983	48 3/4 3.42 9.70	1/ 1/1983			PC 37 35 820 800 910 935			
30.00 1970 H.C. LTD	32 10.86 14.99	80 55 1/2	98.22	PC 37 35 820 800 910 935				
15.00 100.00 3.00 1/2 1/1988	45 1/2 6.51 8.44	80 1/2 1/2	9.83	PC 37 35 820 800 910 935				
30.00 1970 ICI OVERSEAS LTD	42 1/2 0.19 9.51	80 13.75	140.00	PC 37 35 820 800 910 935				
20.00 100.00 7.00 1/2 1/1988	44 3/8	10.30 20/1/1988			PC 37 35 820 800 910 935			
30.00 1968 ICI STANDARD ELECTRIC	86 3/8 5.79 4.91	80 24 3/4	48.33	PC 37 35 820 800 910 935				
40.00 100.00 3.00 1/2 1/1988	14 1/4 3.86 8.20	1/ 1/1988			PC 37 35 820 800 910 935			
15.00 1968 ICI STANDARD ELECTRIC	82 7/8 6.35 8.00	80 5/4	74.23	PC 37 35 820 800 910 935				
14.00 100.00 3.00 1/2 1/1988	31 3/4 3.34 8.50	1/ 1/1988			PC 37 35 820 800 910 935			
25.00 1969 ICI STANDARD ELECTRIC	91 1/2 6.83 7.33	80 60	72.91	PC 37 35 820 800 910 935				
25.00 100.00 0.25 1/2 1/1988	31 3/4 3.34 8.50	1/ 1/1988			PC 37 35 820 800 910 935			
32.00 1966 ICI UTILITIES LTD	95 3/2 6.61 8.00	80 24	24.00	PC 37 35 820 800 910 935				
3.00 57.50 5.25 1/2 1/1988	12 3/8 2.30 7.70	1/ 1/1988			PC 37 35 820 800 910 935			
15.00 1964 ICI UTILITIES LTD	91 3/4 6.96 5.85	80 41	14.84	PC 37 35 820 800 910 935				
2.00 100.00 4.30 1/2 1/1988	31 3/4 3.34 8.50	1/ 1/1988			PC 37 35 820 800 910 935			
30.00 1972 I.C.T.	85 1/2 3.58 0.79	80 56 1/8	51.14	PC 37 35 820 800 910 935				
30.00 100.00 3.00 1/2 1/1988	37 3/4 3.34 8.50	1/ 1/1988			PC 37 35 820 800 910 935			
30.00 1969 I.C.T. STANDARD LTD	85 1/2 3.58 0.79	80 56 1/8	51.14	PC 37 35 820 800 910 935				
19.00 100.00 3.00 1/2 1/1988	11 7/8 5.56 3.60	1/ 1/1988			PC 37 35 820 800 910 935			
25.00 1968 JONATHAN LOGAN LTD	82 7/8 6.35 8.00	80 5/4	74.23	PC 37 35 820 800 910 935				
24.00 100.00 4.75 1/2 1/1988	12 3/8 2.30 7.70	1/ 1/1988			PC 37 35 820 800 910 935			
30.00 1968 KALSHAM ALUM & CHEM LTD	80 3/8 5.87 0.98	80 1/4	88.04	PC 37 35 820 800 910 935				
10.00 100.00 3.00 1/2 1/1988	12 3/8 2.30 7.70	1/ 1/1988			PC 37 35 820 800 910 935			
15.00 1968 KALSHAM ALUM & CHEM LTD	70 3/8 3.38 10.61	80 26	14.84	PC 37 35 820 800 910 935				
23.00 100.00 3.75 1/2 1/1988	81	6.17 7.66	80 18.8	29.89	PC 37 35 820 800 910 935			
30.00 1968 LEASCO WORLD TRADING	23 3/8	10.30 20/1/1988			PC 37 35 820 800 910 935			
20.00 100.00 3.00 1/2 1/1988	23 3/8	10.30 20/1/1988			PC 37 35 820 800 910 935			
40.00 1969 LEASCO LTD	44 3/8	10.30 20/1/1988			PC 37 35 820 800 910 935			
40.00 100.00 3.00 1/2 1/1988	23 3/8	10.30 20/1/1988			PC 37 35 820 800 910 935			
55.00 1968 LEVIN-TURNER LTD	24	21.82 28.35	80 40.92	7/ 5/1968	PC 37 35 820 800 910 935			
14.00 100.00 3.00 1/2 1/1988	91 1/4 6.19 11.43	80 66.22	74.23	PC 37 35 820 800 910 935				
40.00 1968 LTV INTERNATIONAL	7 1/4	8.40 1/ 1/1988			PC 37 35 820 800 910 935			
55.00 1968 LTV INTERNATIONAL	7 1/4	8.40 1/ 1/1988			PC 37 35 820 800 910 935			
30.00 1968 MARLEN HILAND LTD	78 3/4 6.35 8.04	80 40	183.29	PC 37 35 820 800 910 935				
30.00 100.00 3.00 1/2 1/1988	11 7/8 5.56 3.60	1/ 1/1988			PC 37 35 820 800 910 935			
15.00 1973 MARLEN LTD	74 3/4 6.09 8.64	80 29.81	126.41	PC 37 35 820 800 910 935				
15.00 100.00 3.00 1/2 1/1988	9 7/8	10.70 15/1/1988			PC 37 35 820 800 910 935			
30.00 1973 MARLEN LTD	81 3/4 6.35 8.04	80 40	183.29	PC 37 35 820 800 910 935				
50.00 100.00 4.30 1/2 1/1988	21 3/8 1.19 11.90	1/ 1/1988			PC 37 35 820 800 910 935			
23.00 1972 MARSHALL NICE REALTY	85 7/8 7.86 8.97	80 52 1/4	97.82	PC 37 35 820 800 910 935				
23.00 100.00 4.75 1/2 1/1988	14	8.29 19.00	15/1/1988		PC 37 35 820 800 910 935			
30.00 1972 J.BAY MCMURRAY	134 3/8	6.52 80 15.87	-1.31	PC 37 35 820 800 910 935				
21.00 100.00 4.75 1/2 1/1988	44 3/8 6.19 11.43	80 66.22	74.23	PC 37 35 820 800 910 935				
15.00 1969 MID CAP	82	9.07 11.85	80 02	25.88	PC 37 35 820 800 910 935			
15.00 100.00 3.50 1/2 1/1988	5 7/8	16.40 1/ 1/1988			PC 37 35 820 800 910 935			
15.00 1969 MID CAP	85 1/2 3.58 0.79	80 56 1/8	51.14	PC 37 35 820 800 910 935				
15.00 100.00 3.50 1/2 1/1988	23 3/8	10.30 20/1/1988			PC 37 35 820 800 910 935			
15.00 1972 MIDCAP LTD	75 7/8 6.35 8.04	80 40	183.29	PC 37 35 820 800 910 935				
20.00 100.00 3.00 1/2 1/1988	11 7/8 5.56 3.60	1/ 1/1988			PC 37 35 820 800 910 935			
25.00 1965 MORGAN LTD	95 1/2 6.79 5.32	80 84	35.50	PC 37 35 820 800 910 935				
25.00 100.00 4.50 1/2 1/1988	66 3/8	5.15 8.10	1/ 5/1966	PC 37 35 820 800 910 935				
30.00 1972 J.P. MORGAN LTD	101	4.21 4.12	80 52 1/4	9.66	PC 37 35 820 800 910 935			
50.00 100.00 4.25 1/2 1/1988	40 1/8	4.16 9.50	15/1/1988	PC 37 35 820 800 910 935				
30.00 1968 MORGAN LTD	113	3.98 2.08	80 39.83	-1.10	PC 37 35 820 800 910 935			
10.00 100.00 4.50 1/2 1/1988	45 1/8	1.85 13.30	1/ 1/1988	PC 37 35 820 800 910 935				
30.00 1968 MORGAN LTD	100 3/8	5.22 3.17	80 50 1/2	2.40	PC 37 35 820 800 910 935			
28.01 100.00 3.25 1/2 1/1988	49 5/8	5.08 9.90	15/1/1988	PC 37 35 820 800 910 935				
7.00 1967 NATIONAL CAN LTD	85	6.42 7.05	80 84.7	23.48	PC 37 35 820 800 910 935			
7.00 100.00 5.75 1/2 1/1988	12 3/8	6.45 5.10	1/ 1/1988	PC 37 35 820 800 910 935				
26.00 1968 NORDIC LTD	83 1/2	5.77 8.36	80 49	73.27	PC 37 35 820 800 910 935			
26.00 100.00 4.75 1/2 1/1988	23 3/8	4.21 8.10	15/12/1969	PC 37 35 820 800 910 935				
25.00 1972 ODESSA-ILLINOIS LTD	122 7/8	3.46 1.91	80 54 1/4	188.29	PC 37 35 820 800 910 935			
16.00 100.00 4.50 1/2 1/1988	23 3/8	4.58 8.08	1/ 2/1975	PC 37 35 820 800 910 935				
30.00 1968 ODESSA-ILLINOIS LTD	71 1/4	6.80 8.55	80 15.87	146.74	PC 37 35 820 800 910 935			
30.00 100.00 5.15 1/2 1/1988	5	10.30	1/ 5/1969	PC 37 35 820 800 910 935				
25.00 1969 J.C. PENNEY LTD	92 7/8	6.46 8.88	80 54 1/2	40.40	PC 37 35 820 800 910 935			
12.00 100.00 0.80 1/2 1/1988	36	4.11 10.40	1/ 7/1970	PC 37 35 820 800 910 935				
35.00 1972 J.C. PENNEY LTD	79 7/8	5.49 7.58	80 84	84.62	PC 37 35 820 800 910 935			
55.00 100.00 4.50 1/2 1/1988	34	4.11 10.40	1/ 8/1972	PC 37 35 820 800 910 935				
16.00 1969 PLAYERS LTD	84 1/2	7.88 8.01	80 54 1/2	69.89	PC 37 35 820 800 910 935			
10.00 100.00 5.50 1/2 1/1988	4 7/8	4.90 15/1/1970	PC 37 35 820 800 910 935					
0.00 1968 PLAYERS LTD	92	5.71 7.00	80 26 3/4	34.83	PC 37 35 820 800 910 935			
0.00 100.00 5.15 1/2 1/1988	10 1/4	5.48 7.80	1/ 1/1969	PC 37 35 820 800 910 935				
16.00 1971 PLAYERS LTD	78 7/8	6.00 10.01	80 15.87	PC 37 35 820 800 910 935				
7.00 100.00 6.25 1/2 1/1988	1 1/2	3.43 15.20	15/1/1972	PC 37 35 820 800 910 935				
50.00 1968 PLAYERS LTD	80 3/8	5.76 8.00	80 54 1/2	69.89	PC 37 35 820 800 910 935			
50.00 100.00 5.00 1/2 1/1988	29 1/8	4.27 11.80	1/ 5/1969	PC 37 35 820 800 910 935				
24.00 1968 RAYSON LTD	128 1/2	3.13 50 34	-4.42	PC 37 35 820 800 910 935				
24.00 100.00 4.75 1/2 1/1988	43 7/8	3.05 12.20	2/ 1/1969	PC 37 35 820 800 910 935				
50.00 1972 RAYSON LTD	112	4.24 3.14	80 29 3/4	1.47	PC 37 35 820 800 910 935			
49.00 100.00 4.75 1/2 1/1988	43 7/8	3.05 12.20	2/ 1/1969	PC 37 35 820 800 910 935				
50.00 1968 RAYSON LTD	91 1/8	5.25 6.24	80 15.87	28.22	PC 37 35 820 800 910 935			
30.00 100.00 3.00 1/2 1/1988	35 1/4	2.12 10.79	1/ 2/1969	PC 37 35 820 800 910 935				

## WestLB Euro-Deutschmark bond Quotations

Issue	Middle Price	Current Yield	Life	Yield to Maturity	Repayment D - mandatory drawing by lot at par S - sinking fund
7 1/2% Telenor Inc. 73/88	103.50	7.00	5.49	6.46	1.179-885
8% Telenor 73/93	104.40	7.66	10.16	7.37	1.182-935
9 1/2% Telenor 75/82P	107.00	8.88	4.42	7.55	1.382
8 1/2% Thyssen Car Fin. 75/82P	107.50	7.91	4.50	6.51	1.482
8 1/2% Thyssen Car Fin. 75/82P	106.50	7.75	4.75	6.60	1.782
6 1/2% Thyssen Inv. 66/81	104.00	6.25	4.89	4.24	1.372-81D
7 1/2% Tokyo Ei Power 69/84	103.75	6.99	4.05	6.20	1.1275-84D
9 1/2% Toray Ind. 75/80P	106.25	8.94	2.36	6.52	10.280
6 1/2% Traf. House Fin. 72/87	95.65	6.80	10.00	7.12	1.1078-875
6 1/2% Trondheim 68/83	102.50	6.59	3.58	6.05	1.1272-835
8 1/2% Trondheim 70/85	105.00	8.10	4.48	7.30	1.1274-855
7 1/2% TRV Int. Fin. 69/84	102.25	7.33	3.87	6.94	1.1075-845
9 1/2% Unilever 74/81P	111.50	8.74	4.17	6.50	1.1281
8 1/2% Unilever 75/87	101.65	7.01	6.94	6.36	1.581-875
6 1/2% Unt. Arab Emirates 77/82P	100.50	6.72	4.58	6.61	1.674-835
7% Venezuela 68/83	101.00	6.93	2.87	6.72	1.879-84D
7% Vienna 68/83	103.70	6.75	3.09	5.75	30.482

# WestLB Euro-Deutschmarkbond Quotations and Yields

Issue	Price	Yield	Life	Yield to Maturity	Yield to Maturity
ADELA 76/83	104.75	7.64	5.30	6.92	1.483
ADELA 77/82P	101.00	7.18	4.71	6.98	1.682
ADELA 77/82P	100.25	6.98	4.83	6.93	1.882
ADELA 77/82P	100.25	5.80	1.81	3.94	1.272-81D
AKZO 75/82P	100.25	6.48	3.29	6.40	1.375-84D
AKZO 76/83P	104.25	7.43	5.67	6.81	1.282
Aluacuse Int'l 75/83	108.90	7.58	4.81	6.06	1.881-83D
AMEX Int'l 77/84P	104.00	6.49	6.50	5.98	1.464
ARBEF Finance 76/83P	106.00	9.43	2.62	7.38	1.127-81D
ARBEF Finance 76/83P	103.00	7.52	6.08	7.12	1.113
Ardal-Sunddal 75/87	98.50	6.85	9.67	6.96	1.682-87S
Ardal-Sunddal 77/88P	106.00	8.25	3.75	6.86	1.127-79S
Argentine 67/79	101.00	6.68	8.08	6.58	1.1071-76S
Argentine 68/78	100.15	6.99	1.66	6.88	1.781
Argentine 69/79	102.60	6.91	1.00	6.58	1.782-89S
Argentine 70/80	102.60	7.30	1.00	6.42	1.1272-79S
Argentine 71/81	100.75	7.44	7.00	7.36	1.1272-79S
Asian Dev. Bk. 69/84	103.90	6.74	3.80	5.92	1.975-84S
Asian Dev. Bk. 75/80P	106.00	8.02	3.12	6.31	16.1180
Asian Dev. Bk. 76/82	106.00	7.55	4.42	6.38	1.382
Asian Dev. Bk. 76/83P	105.00	7.38	5.50	6.62	1.483
Asian Dev. Bk. 77/85	103.10	6.79	7.50	6.46	1.485
ASKO 75/80P	107.00	8.88	2.50	6.35	1.480
Aumar 73/88 (G)	101.25	7.81	2.35	7.31	1.279-88D
Aumar 76/84 (G)	109.00	8.28	3.75	6.31	15.877-84S
Aumar 77/84 (G)	103.00	7.52	6.75	7.16	1.175-84S
Australia 67/82	104.25	6.34	2.52	6.47	1.175-82S
Australia 68/83	106.00	6.37	3.27	4.80	1.874-83S
Australia 69/84	103.55	6.28	3.23	5.36	1.275-84S
Australia 70/85	105.40	6.88	3.97	5.79	1.1175-84S
Australia 71/86	106.50	6.97	5.07	5.49	1.278-87S
Australia 72/87	112.70	7.82	5.31	6.31	1.1270-87S
Australia 73/88	111.90	8.04	4.33	5.80	1.1270-87S
Australia 74/89	106.00	7.78	4.58	6.67	1.582
Australia 75/90	106.00	6.74	5.42	5.60	1.383
Aust. Ind. Corp. 72/87	102.75	6.37	3.34	6.13	1.1178-87D
Aust. Ind. Corp. 73/88	106.00	7.55	2.45	6.73	1.983
Rep. of Austria 67/83	103.25	6.52	2.45	6.44	1.175-83S
Rep. of Austria 69/83	102.75	6.33	2.92	5.54	1.475-83S
Rep. of Austria 74/79P	106.00	8.96	1.75	5.77	1.779
Rep. of Austria 74/80P	105.00	9.07	3.08	6.95	1.1180
Rep. of Austria 74/81P	108.00	9.03	4.17	7.43	1.1281
Rep. of Austria 75/81P	106.00	9.96	2.23	6.61	1.280
Rep. of Austria 75/81P	107.00	7.77	3.67	6.05	1.681
Rep. of Austria 75/82P	106.50	8.22	2.96	6.25	1.482D
Rep. of Austria 75/83	107.25	8.39	3.33	7.29	1.283
Rep. of Austria 75/83P	107.00	8.18	3.44	6.40	1.479-83D
Rep. of Austria 75/87	107.00	7.88	5.27	6.68	1.578-87S
Rep. of Austria 76/86	107.25	7.19	7.05	6.34	2.583-86S
Rep. of Austria 77/87	103.85	6.50	6.61	6.02	1.483-85S
Rep. of Austria 77/87P	104.00	6.50	6.61	6.02	1.183-87D
Rep. of Austria 77/87P	103.00	6.55	7.27	6.22	1.183-87D
Rep. of Austria 77/87P	99.50	6.03	9.92	6.07	1.984-87D
Autopistas 69/84 (G)	101.00	7.18	3.61	7.05	1.773-84S
Autopistas 71/86 (G)	103.00	7.77	4.76	7.38	1.1077-86D
Autopistas 72/87 (G)	99.30	6.80	5.23	6.91	1.1078-87D
Banco N. Obras 71/86 (G)	103.50	6.73	4.38	7.16	1.1177-86S
Banco N. Obras 72/87 (G)	106.75	6.96	3.92	6.91	1.981
Banco N. Obras 73/88 (G)	100.00	7.25	4.87	7.24	1.682
Banco N. Obras 74/89 (G)	97.75	7.16	7.00	7.42	1.1084
BAF 65/80	102.50	5.85	1.98	6.45	1.1071-80D
BEC Finance 76/83P	103.50	7.25	6.08	6.78	1.113
Beecham Fin. 76/83	101.60	7.87	6.08	7.66	1.113
Bergan 74/79	109.00	9.12	2.17	5.46	1.1279
Bergan 75/85	109.00	8.03	5.52	6.73	1.581-85D
Bergan 76/86	109.00	6.94	7.13	6.43	1.281-89D
Bergan 77/87 (G)	107.25	6.40	7.81	6.35	1.640
BFCE 76/84 (G)	101.25	7.69	3.73	6.68	1.782-84S
BFCE 77/87 (G)	102.50	6.83	7.27	6.55	1.283-87S
BNDE 77/87	104.75	8.11	6.89	7.58	1.483(82-87)
Boehler 74/77P	100.00	10.80	0.17	9.59	1.127
Borg-Warner 69/84	101.70	7.37	3.40	7.05	1.1177
Borregaard 75/81P	107.00	8.41	3.58	6.71	1.581
Brascan Int'l 73/88	104.80	8.11	6.66	7.54	1.1076-87S
Brazil 72/87	98.00	6.89	10.80	7.04	1.1082(80-86)
Brazil 73/88	106.75	8.12	6.82	7.12	1.581
Brazil 74/89	102.75	7.50	7.50	7.20	1.581
Brenner 68/83 (G)	103.50	6.52	3.35	5.63	1.874
British Gas 69/79 (G)	101.50	6.65	0.99	5.25	1.475-79D
British Gas 69/84 (G)	102.60	6.58	3.38	5.98	1.475-84D
British Gas 69/84 (G)	101.50	5.42	1.65	4.52	1.671-80D
Burmah Oil 70/85	104.00	8.17	4.39	7.55	1.1176-85D
C.C.C.E. 75/85 (G)	107.75	7.89	5.43	6.73	1.481-85D
C.C.C.E. 76/86 (G)	108.00	7.87	7.21	7.04	1.773-86D
C.C.C.E. 77/87 (G)	103.00	6.80	7.67	6.48	1.481-89D
CECA 65/83	100.25	5.49	2.92	5.34	1.668-79D
CECA 71/86	104.75	7.16	4.38	6.21	1.377-86D
CECA 72/87	101.70	6.39	5.01	6.09	1.778-87D
CECA 72/88	103.60	6.76	5.51	6.20	2.179-88D
CECA 74/79	101.25	6.42	5.75	6.22	1.479-88D
CECA 73/88	102.75	6.07	6.46	2.97	1.1179-88D
CECA 74/79 IP	107.50	9.30	1.83	5.56	1.879
CECA 74/79 IP	107.50	9.30	1.92	5.74	1.979
CECA 74/81P	109.00	9.17	3.92	7.27	1.981
CECA 75/80P	113.10	7.80	4.17	6.09	1.1280
CECA 75/82P	106.00	7.55	3.17	5.86	1.1280
CECA 75/82P	106.50	9.98	4.42	6.73	1.382
CECA 75/83	108.00	7.41	5.21	6.15	15.1282
CECA 75/85	106.00	8.02	3.63	6.65	1.578-85D
CECA 76/81P	105.00	7.55	4.21	6.32	1.1281
CECA 76/83	107.39	7.21	6.00	6.21	1.1083
CECA 76/86	107.40	7.22	6.94	6.40	1.1082-86D
CERGA 73/81P	100.80	6.50	3.50	6.48	1.481
Charter 68/83	100.00	6.75	3.62	6.52	1.1072-83S
Chrysler 69/84	101.85	6.87	3.62	6.52	1.778-84S
CIBA-GEIGY ex 75/85P	106.00	6.37	8.00	5.79	1.1085
C.N. Autoroutes 69/84 (G)	102.45	6.34	3.31	5.65	1.375-84D
C.N. Autoroutes 75/82 (G)	108.50	8.76	4.29	7.11	16.182
C.N. Energie 69/84 (G)	101.00	6.44	3.21	6.13	1.275-84D
C.N. Telecom. 68/83 (G)	103.25	6.30	3.51	5.45	1.1174-83D
C.N. Telecom. 70/85 (G)	106.00	8.02	4.32	6.99	1.1076-85S
C.N. Telecom. 71/86 (G)	106.10	8.24	4.42	7.04	1.1076-85S
C.N. Telecom. 75/83P (G)	107.50	8.66	5.37	7.38	16.283
C.N. Telecom. 75/83P (G)	107.50	8.66	5.37	7.38	16.283
C.N. Telecom. 76/83 (G)	104.25	6.95	5.54	6.31	16.483

Issue	Price	Yield	Life	Yield to Maturity	Yield to Maturity	Yield to Maturity
ESTEL 73/88	104.50	7.42	6.52	6.86	1.879-88S	
ESTEL 73/85	106.40	7.42	6.80	7.14	1.681-85S	
ESTEL 74/83P	105.00	8.10	5.42	7.33	1.183	
Eurofima 64/79	100.00	5.30	1.33	5.48	1.876-79D	
Eurofima 65/80	102.00	5.88	2.15	4.99	1.1628-80D	
Eurofima 67/84	104.25	6.24	3.34	5.08	1.971-81D	
Eurofima 71/86	105.00	7.38	4.13	6.32	1.275-86D	
Eurofima 72/87	101.75	6.14	5.18	5.85	1.975-87D	
Eurofima 73/88	102.10	6.37	5.13	6.00	1.377-88D	
Eurofima 73/88P	106.25	7.53	5.68	6.64	1.1077-88D	
Eurofima 74/89P	107.75	9.24	5.27	6.51	1.1279	
Eurofima 75/85	110.73	9.24	5.27	6.51	1.281-85D	
Eurofima 76/83	109.50	9.87	5.33	6.07	1.281	
Eurofima 77/87P	104.00	6.49	7.27	6.05	1.283-87D	
Eurof. Inv. Bank 68/78	101.25	6.42	6.67	4.61	1.678	
Eurof. Inv. Bank 69/84	101.25	5.93	3.31	5.66	1.375-84D	
Eurof. Inv. Bank 69/84	104.00	6.73	3.97	5.94	1.1175-84D	
Eurof. Inv. Bank 70/80	105.95	7.55	2.99	5.57	2.580	
Eurof. Inv. Bank 71/86	106.05	7.07	4.22	5.95	1.377-86D	
Eurof. Inv. Bank 71/86	104.90	7.39	4.29	6.53	1.1077-86D	
Eurof. Inv. Bank 72/87	101.75	6.42	6.05	6.05	1.378-87D	
Eurof. Inv. Bank 72/87	99.50	6.62	6.26	6.05	1.980-87D	
Eurof. Inv. Bank 73/88	102.75	6.57	6.04	6.18	1.279-88S	
Eurof. Inv. Bank 73/88	102.75	6.51	6.45	6.46	1.777-88S	
Eurof. Inv. Bank 74/81P	110.50	9.05	3.92	6.85	1.981	
Eurof. Inv. Bank 75/80	106.75	7.89	3.17	5.60	1.1280	
Eurof. Inv. Bank 75/80	111.50	8.52	4.23	6.30	1.181-83D	
Eurof. Inv. Bank 76/83	107.00	7.48	4.21	6.06	1.780-83D	
Eurof. Inv. Bank 76/83P	106.50	7.88	6.00	6.47	1.1083	
Eurof. Inv. Bank 76/84	103.60	6.52	5.63	5.97	1.1281-84D	
Eurof. Inv. Bank 77/89	99.20	6.45	11.33	6.09	1.1281-84D	
Eurof. Inv. Bank 77/89	103.70	7.96	4.10	7.32	1.277-86D	
Eurof. Inv. Bank 77/89 (G)	102.40	7.81	4.53	7.49	1.178-87D	
Eurof. Inv. Bank 78/83	103.00	10.19	1.08	7.49	1.1175-76D	
Fin. Inst. F. Dan. Ind. 76/81P	101.75	7.37	3.00	6.22	1.1278-81S	
Finland 64/79	101.25	6.17	1.41	5.39	1.970-79D	
Finland 64/80	102.75	5.56	1.75	5.61	1.471-80D	
Finland 68/83	102.00	6.86	3.08	6.37	1.672-83D	
Finland 68/83	100.80	6.70	3.57	6.60	1.1272-82D	
Finland 69/84	101.85	6.87	3.46	6.49	2.573-84D	
Finland 69/84	103.20	7.27	3.87	6.66	1.1073-84D	
Finland 70/85	104.25	8.15	4.48	7.50	1.1276-85S	
Finland 72/87	101.85	6.87	4.74	6.65	1.476-87S	
Finland 76/84	105.10	7.61	5.13	6.78	1.681-84S	
Finn. Kommunal 69/81 (G)	103.00	7.28	2.63	6.34	1.1272-81D	
Finn. Kommunal 71/83 (G)	103.50	7.73	2.99	6.79	2.576-83D	
Formarks 75/83 (G)	106.80	7.22	4.21	6.35	1.780-83D	
Francetel 76/83 (G)	104.50	7.18	6.04	6.57	16.1083	
Francetel 77/84P (G)	102.75	6.57	6.50	6.21	1.484	
Fuji Heavy 76/81P	104.00	6.73	4.17	5.88	1.1281	
Fujitsu 75/80P	103.00	9.22	2.42	8.04	1.380	
Genl. Instrum. 68/80	102.00	6.86	1.68	5.82	1.671-80S	
Gen. Zbk. Vienna 75/82	108.50	8.53	4.42	6.93	1.382	
Gen. Zbk. Vienna 76/83P	105.50	8.06	4.82	7.10	1.282-83D	
Giroz. Vienna 74/78P	104.00	9.38	1.17	6.06	1.1278	
Giroz. Vienna 74/79P	106.25	7.18	6.27	6.30	1.1279	
Giroz. Vienna 74/80P	107.50	9.07	3.17	7.01	1.1280	
Giroz. Vienna 76/81	104.50	6.70	4.08	5.73	1.1181	
Giroz. Vienna 76/83	104.50	6.94	6.08	6.33	1.1183	
Giroz. Vienna 77/82	104.50	6.88	6.00	6.55	1.082	
Gloax Fin. 71/86	104.50	6.66	4.53	6.94	1.282-86S	
Goeteborg 75/65P	109.90	8.90	5.26	7.48	1.281-85D	
Goodyear Tire 72/87	104.25	6.47	5.43	5.81	1.1278-78S	
Grand Metrop. Fin. 77/84	99.75	7.02	6.83	7.04	1.811-84S	
Guardian Inv. 73/83P	102.00	7.04	3.27	6.19	1.279-83D	
Guerik-Kapitel 74/83	105.00	7.62	5.09	6.88	2.583	
Hamerlinck Ind. 72/87	103.00	6.74	6.00	6.16	1.1278-87S	
Hazama-Gumi 76/81P	100.00	7.55	3.67	6.11	1.681	
Helsinki 68/83	102.50	6.83	3.16	6.21	1.772-83S	
Hlghv. Steel ex w. 66/78	99.85	6.51	0.50	6.70	1.478	

## MARKET MAKERS

## REGION 1-BELGIUM

105 Bondtrade  
110 Dewaay, Seblie, Servais  
Van Campenhout & Cie  
115 Kredietbank N.V.  
1000 Brussels 7, Arenbergstraat  
P 511 90 90 T 23 622 Trading  
P 513 18 45 T 221 909 New  
Issues

## REGION 2-FRANCE

230 Banque Arabe et Internationale d'Investissement  
(S.A.I.I.)  
225 Banque Lout-Dreyfus  
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maturity up to 5 years					
8 % Invest 1973/III/B/82	100. —	3.11	8.74	8. —	20.11.74-82 at 102.0 to 102.5
8 % Invest 1974/B/82	101.75	2.48	8.89	7.86	1. 4.76-82 at 104.0 to 104.5
8 1/2% Energie 1974/S/80	99.50	2.10	8.90	8.54	75.11.77-80 at 100.0 to 100.5
8 1/2% Innsbruck 1974/B/82	99.10	3.05	8.99	8.58	19.11.75-82 at 100.5
8 1/2% Kärnten 1975/B/81	100.30	1.91	8.90	8.47	7. 3.78-81 at 101.0 to 101.5
8 1/2% Steir. Wasserkraft 1975/B/81	100.10	1.94	8.90	8.49	18. 3.78-81 at 101.0
8 1/2% Steyr-Daimler-Puch 1974/B/81	99.75	2.55	8.80	8.52	29.10.75-81 at 100.5

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Selected Austrian Schilling Bonds of Austrian issuers	Middle Price	Average Life	Yield to average life	Current Yield	Redemption (mandatory drawings by lot)
8 % Österreich 1969/C/84	98.50	3.73	8.99	8.12	1. 7.70-84 at 100.0 to 102.0
8 1/2% Österreich 1975/S/83	99.40	2.90	8.98	8.55	5. 3.76-83 at 100.0 to 101.0
8 1/2% Österreich 1975/S/III/85	100.25	5.13	9. —	8.48	27.11.79-85 at 103.0 to 103.5
8 1/2% Österreich 1976/S/86	99.25	5.86	9.05	8.56	20. 2.81-86 at 101.5 to 104.0
8 1/2% Wien 1975/B/83	98.50	3.05	9.12	8.63	29. 4.76-83 at 100.0
8 1/2% CA-BV 1975/II/B/85	100. —	4.59	8.76	8.50	11.11.76-85 at 101.0 to 101.5
8 1/2% Energie 1975/II/B + S/85	100.30	5.05	9.02	8.47	29.10.79-85 at 103.5
8 1/2% Sempert 1975/B/84	99.50	3.69	9.05	8.54	18. 6.76-84 at 101.0 to 103.0

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6 3/4% Austrian Electricity 67/82	7 % Österreichische Kontrollbank 77/80
6 % Rep. of Austria 64/84	7 1/2% Österreichische Kontrollbank 77/82
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# Bad prices and worse costs

CUSTOMERS LOOKING at the substantial losses expected by Scandinavian pulp and paper makers this year may be excused a transient feeling of "serenity" if they are right.

Five years ago, when paper was in short supply, manufacturers sent prices soaring as consumers scrambled to secure their supplies. The current losses reflect not merely the prolonged recession and the consequent fall in prices, taken a step further last week, but also the large wage increases and capital outlays which companies made at the height of the boom.

Since then, stocks have been transferred from the customers in the suppliers' demand, and remained at a low level, and wages and other costs have continued to soar. Although paper makers are used to a five-year trade cycle, the Swedish industry has, in addition, been badly shaken by other developments which threaten to leave it with a permanently weakened position in world markets.

The downward lurch in the market which was caused by the 1973 oil crisis left manufacturers with an embarrassingly large number of new machines commissioned in the fat years when expectations were higher. That extra capacity which came into production in the last few years has been competing for a much shrunken market.

As a result most Swedish pulp and paper mills are running at only about 75 to 80 per cent. capacity. At first profits were merely depressed. But this year, the forest industry is expecting a loss of between £120m. and £230m. This represents an average loss of around 7 per cent. on turnover.

Most companies will survive this reversal of fortunes until at least the end of the year. But unless the European

economy, on which the paper trade closely depends, should improve before the middle of next year, some companies will be in serious trouble.

At the same time, Swedish manufacturers are suffering from another consequence of the boom years—a wage explosion, which has continued to shake the economy, long after the boom was over. The recent devaluation of the Swedish Kroner, though it will help exporters in the short run, is likely to give a further impetus to domestic inflation.

## Profits

The effect of inflation on forestry has been to increase wood prices by 100 per cent. over three years. Even in the less labour intensive processes of making pulp and paper, high wages have eaten away profits.

For example shift workers at MoDo's new fine paper mill at Husum earn up to £8,700 a year for a three-week-on, three-week-off rota which gives most of them time to take second jobs or tend their farms. Even by U.S. and German standards, these are very generous pay and conditions, especially when added to the "social wage" of an all-embracing welfare state.

The difficulties are so severe that some company heads are beginning to skirt delicately around the taboo subject of a cut in wages, or, if that is politically unthinkable, a standstill while those in competing countries catch up.

It is tempting to ask whether the Swedes, in the euphoria of expansion, have not paid themselves so much that they have started to price themselves out of the market. The cost of wood to make a tonne of fine paper is, for example, £106 in Sweden compared with about £55 in North America; and up

to 70 per cent. of the cost represents wages.

These difficulties would not look unduly menacing by themselves, because an increase in demand for wood products must sooner or later lead to what the Swedes call an "improvement" in prices and a better use of capacity.

Unfortunately the Swedish forest industries are having to contend with stronger and larger adverse forces at the same time. First their forests are in danger of running out. Secondly much faster growing pines in the Southern states of America and Brazil will give Sweden's competitors in the pulp market an increasing advantage.

Brazilian pine, for example, takes only 16 years to mature compared with 50 years in southern Scandinavia and 100 years in the north. Moreover, it is calculated that if only 3 per cent. of Brazil were cultivated with timber forests, the eventual pulp output would be enough to satisfy the whole world's current demand for 122m. tonnes.

The Swedes are therefore faced with a Catch 22 dilemma: in order to preserve a stock of timber for their children and grandchildren, they must increase yields and shorten growing times by modern scientific methods. But drainage, fertilisers, spraying and machinery for making use of roots and branches all cost money. These extra costs, compounded by high wages and inflation could, in the long run, make Swedish forest products less and less competitive.

Mr. Bo Rydin, president of Svenska Cellulosa, the paper and packaging group and the largest private forest owner, says: "There are plenty of trees for us to cut down in the next 10 to 20 years if we wanted to."

"The problem is in achieving a rate of cutting which can be sustained through the next generations."

Mr. Rydin says he foresees some of the current stresses five years ago. As a result Svenska Cellulosa (SCA) has been steadily diversifying away from primary wood products, which in 1973 accounted for nearly all the company's turnover, but which now account for less than half.

As a result of the moves into packaging (a link with Jefferson Smurfit in the U.K. is the latest), hygiene products, leisure equipment and engineering, SCA is in a better position than most Swedish paper companies to meet the present crisis.

## Losses

On the other hand, MoDo, which makes sulphate pulp and fine paper is feeling the draught much more strongly because it is comparatively less well integrated and scarcely at all diversified away from forest products. Only half of its pulp is used for its own paper making, compared with 75 per cent. of SCA's output.

Mr. Matts Carlgren, the president, is expecting to announce a substantial loss this year, and is gloomy about the prospects unless there is an early improvement in the market.

He believes a further reduction in wood costs is essential, in addition to the 15 to 20 per cent. cut in prices already made. In the longer term, he believes the industry must accept that there can be no increase in the present pulp making capacity of about 10m. tonnes, and that it may even have to be reduced.

He also thinks that future capital expansion must be based on the view that plant will only

be used at 80 per cent. capacity in the lean years. "We have to learn to live with a five year cycle of two years running at full capacity and perhaps three in which demand is slack. For this reason it is not entirely realistic to talk about overcapacity. Our prices for the past ten years should have been based on this assumption."

The problem facing a company like MoDo is that because the supply of timber cannot increase, any future expansion must come from further integration into paper-making or converting processes. However, since it is politically very difficult to lay off workers when demand falls, it is very hard to find money to invest for the next upturn.

The whole question of the capacity of the forests and the needs of the industry based upon them is now under investigation by a government commission which is expected to report early next year.

This commission will have to decide upon yet another challenge to the Swedish forest industry which comes from within the country itself and is increasingly worrying senior executives. It is being mounted by a small but influential group of environmentalists which opposes precisely those measures which the industry says are needed to preserve the stock of forest. The main target is the defoliation which is sprayed from the air in newly cut swathes of forest in kull, undisturbed birch and other scrub trees. The industry says the alternative of rooting out the scrub by hand is too expensive and often impossible because of labour shortages.

Opposition to these defoliation has built up a big emotional pressure because of their use

in Vietnam by the U.S. army. But if they are banned in Sweden, as the groups hope, Mr. Rydin estimates the annual cut would have to be reduced by 5 per cent. in the north and "much more" in the south, to preserve stocks for the next generation.

"They do not realise that one effect of banning the use of these chemicals would be that we would have to close a small factory," he said.

## DDT ban

Productivity has already been hit by the banning of the use of DDT which was formerly used to protect young seedlings from attack by beetles.

In addition, environmentalists and local communities have been asking for large tracts of forest to be preserved for recreation. Total demands from the preservationists are estimated by the forest industry to add up to 3m. hectares or nearly 10 per cent. of the total area of forest. The main purpose is to protect areas of beauty from the process of "clear cutting" in which large parts of the landscape are completely shorn of trees. However, the alternative of thinning out by individual felling is too possibly expensive because modern tree harvesting machines cannot be used.

Environmentalists are even striking at the development of hydro-electricity, that cheap, pollution-free renewable energy source on which the pulp and paper industry greatly depends. Mr. Rydin said: "We have lots of waterfalls on our land which could be used for hydro-electricity, but if we applied for permission to develop them all, we would not get it."

## Salmon

The trouble is that concrete dams and power stations interfere with the natural beauty of the scenery, and can disrupt the sex lives of salmon. Reservoirs swamp the gaily splashing torrents.

Even in an industry which depends upon the harmless natural force of growing trees, therefore, the commission will come up against the classic opposition between the creation of wealth and the despoliation of the countryside.

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David A. Heermans,  
European Audit Manager,  
NL INDUSTRIES, INC.,  
rue de l'Hôpital 31 bte 6,  
1000 Brussels, Belgium.

## COMPANY NOTICES

### NEDERLANDSE UNIEVEER

REDELIJNEN B.V.  
9170, Rotterdam and Oudehaven "A" sub-branches issued by N.V. Nederlandse Administratie: on Truistkantoor  
Interim dividend for 1973 of 2.25% (10.33) and 0.2125% (10.2046375) respectively will be paid on and after 1 November 1977. To obtain their dividend certificates must be filled in forms obtainable from one of the following banks:  
Midland Bank Limited, New Island Department, Market House, Pearl Street, London EC3M 4DA.  
Northern Bank Limited, 2 Watling Street, Belfast BT1 2EE.  
Allied Irish Bank Limited, Security Department, 3-4 Foster Place, Dublin 2.  
Cibank Ltd, 30 St. Vincent Place, Glasgow.  
with which they should be lodged for payment and left for the bank days for presentation and from which other details of the dividend may be obtained on or after 1 November 1977.  
The Register of Certificates for interim dividend will be closed from 12 October to 24 October 1977 both dates inclusive.  
N.V. NEDERLANDSE ADMINISTRATIE EN TRUISTKANTOOR  
Londen Truistkantoor, 100, Pall Mall, London SW1Y 5AH.  
8 October 1977.

### J. W. CAMESON & CO. LIMITED

NOTICE IS HEREBY GIVEN that the Register of the Ordinary Shares of the Company will be closed for the purpose of the dividend for the year ended 31 October 1977, from 10 October 1977 to 10 November 1977, both dates inclusive.  
By Order of the Board  
J. W. CAMESON  
Secretary

### PROVIDENT LIFE ASSOCIATION

OF LONDON LIMITED  
NOTICE IS HEREBY GIVEN that the Register of the Ordinary Shares of the Company will be closed for the purpose of the dividend for the year ended 31 October 1977, from 10 October 1977 to 10 November 1977, both dates inclusive.  
By Order of the Board  
PROVIDENT LIFE ASSOCIATION  
OF LONDON LIMITED  
Secretary

### PROVIDENT LIFE ASSOCIATION

OF LONDON LIMITED  
NOTICE IS HEREBY GIVEN that the Register of the Ordinary Shares of the Company will be closed for the purpose of the dividend for the year ended 31 October 1977, from 10 October 1977 to 10 November 1977, both dates inclusive.  
By Order of the Board  
PROVIDENT LIFE ASSOCIATION  
OF LONDON LIMITED  
Secretary

### CHAPP WARRANTS TO BEARER

NOTICE IS HEREBY GIVEN that the Register of the Ordinary Shares of the Company will be closed for the purpose of the dividend for the year ended 31 October 1977, from 10 October 1977 to 10 November 1977, both dates inclusive.  
By Order of the Board  
CHAPP WARRANTS TO BEARER  
Secretary

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## PUBLIC NOTICES

BUCKINGHAMSHIRE COUNTY COUNCIL  
The Buckinghamshire County Council has decided to issue a new set of Council Tax (previously known as Rates) for the year 1975-76. The new rates will be payable on 1 April 1975. The Council Tax will be payable in four equal instalments of £4.50, and the entire instalment will be made by 31 March 1976. There are no other charges outstanding.

## CLASSIFIED ADVERTISEMENT RATES

	per line	single column
Industrial and Business		
Premises	3.75	12.50
Business for Sale	3.75	12.50
Residential Property	1.25	7.00
Appointments	2.50	11.50
Business & Investment Opportunities		
Commercial Loans	4.50	15.00
Production Capacity	4.50	15.00
Contractors & Tenderers		
Personal, Gardening	3.50	11.50
Hotels and Travel	2.75	10.00
Book Publishers		
Premium positions available (Minimum 500 words each week)		
£1.00 per line column cm. 2500		
For further details write to: Classified Advertisement Manager, Financial Times, 18, Cannon Street, EC4A 3DF.		

## TATE & LYLE LIMITED

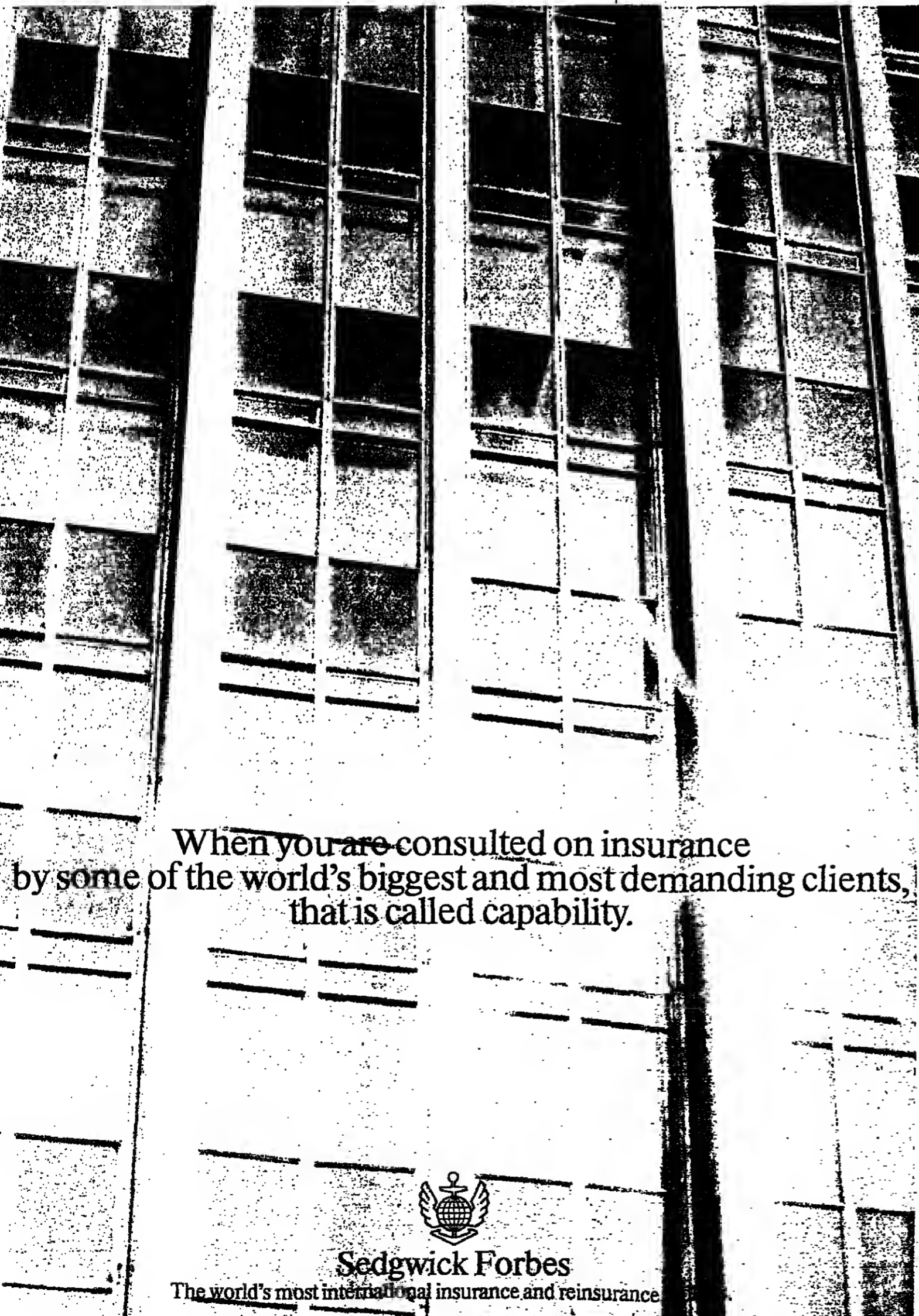
NOTICE TO HOLDERS OF REGISTERED WARRANTS  
NOTICE IS HEREBY GIVEN that the Register of the Ordinary Shares of the Company will be closed for the purpose of the dividend for the year ended 31 October 1977, from 10 October 1977 to 10 November 1977, both dates inclusive.  
By Order of the Board  
TATE & LYLE LIMITED  
Secretary

### THE THOMSON ORGANISATION LIMITED

NOTICE IS HEREBY GIVEN that the Register of the Ordinary Shares of the Company will be closed for the purpose of the dividend for the year ended 31 October 1977, from 10 October 1977 to 10 November 1977, both dates inclusive.  
By Order of the Board  
THE THOMSON ORGANISATION LIMITED  
Secretary

### ESBO PETROLEUM COMPANY LIMITED

NOTICE IS HEREBY GIVEN that the Register of the Ordinary Shares of the Company will be closed for the purpose of the dividend for the year ended 31 October 1977, from 10 October 1977 to 10 November 1977, both dates inclusive.  
By Order of the Board  
ESBO PETROLEUM COMPANY LIMITED  
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# FINANCIAL TIMES SURVEY

Monday October 10 1977

## Costa Rica

Costa Rica is an oasis of welfare and democracy among the nations of Latin America. A genuine democracy, it has put the social needs of its citizens as its top priority and has earned the respect of the outside world.

At peace with self

Alan Riding

COSTA RICA is a rare country, at peace with itself. For Latin America, it is an even greater achievement: it is a functioning democracy in a continent where democracy is a rare sight. It has no army, it suffers no internal violence, wealth is relatively well distributed and its problems are being resolved. But the list could go on. Because Costa Rica is an extension to almost every tenet of the Latin American rule, it is, in fact, a model. It is a country where the rights of the individual are respected in a way that is not only just but also a right to health, education and employment.

President Daniel Oduber, who took office in 1974, is the latest in a long line of Costa Rican leaders who have helped shape this oasis of peace and democracy since 1948. During his four-year term, he ended next May, Sr. Carlos here last month. "There were no big palaces. There were no big haciendas. Everything was also carved a special role for Costa Rica in international was small-scale, with the Fifteen years ago, when it was a country of poverty, has dominated the Costa Rican from 1953 to 1958 and from 1970

was certainly not fashionable, but with exemplary and intense the country's diplomats were campaigning on the issue of human rights and now the world is catching up. Suddenly, poor his plot."

### Military

This tiny republic of just over 2m. inhabitants is an example of what is possible. Its model may not apply exactly to countries of different size or ethnic structure, such as Brazil or Guatemala, yet it illustrates that political intolerance, and violence and economic and social injustice are not unavoidable features of Latin America. Costa Rica itself is also not without its problems—it lacks industry, seasonal unemployment is high, the housing shortage is serious and Government corruption has been growing—but the country has, in fact, always been "different". Unlike its Central American neighbours, only a few nomadic Indian tribes inhabited the territory in pre-Hispanic times. The Spaniards who settled in the lush valley around the present capital of San José, therefore, required neither conquistadors to defeat the Indians nor Catholic priests to convert them. Because there were no Indian slaves, however, the farmers and their families had to work their own land and, as a result, few large haciendas emerged. "There were no big cities," President Oduber recounted to Spain's King Juan Carlos here last month. "There were no big palaces. There were no big haciendas. Everything was also carved a special role for Costa Rica in international was small-scale, with the Fifteen years ago, when it was a country of poverty, has dominated the Costa Rican from 1953 to 1958 and from 1970



President Daniel Oduber.

to 1974: Francisco Orlich from 1962 to 1966 and Daniel Oduber from 1974 to 1978. The party's candidate for next February's elections, Luis Alberto Monge, belongs to a younger generation—he is 51 years old—as does the main opposition figure, 50-year-old Rodrigo Carazo, who broke ranks with the Liberationists a decade ago. But the vitality of the party is reflected in the talent and strength of its younger leaders, men in their thirties who have already held Cabinet posts and who should still be around at the turn of the century. The country's progress over the past 30 years can be illustrated in many ways. In that period, for example, real per capita income has tripled, even though the population has grown from 800,000 to 2m. Illiteracy has been virtually eliminated, with 97 per cent of children between the ages

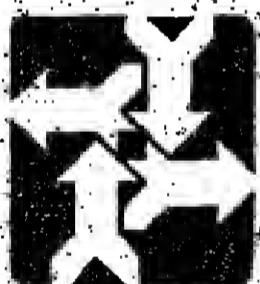
of six and 13 now attending school. Fifteen per cent of GNP is today spent on education and health—"our soldiers are teachers" is a favourite boast—while the population growth rate has fallen from 3.8 per cent, p.a. to 2.2 per cent. In 15 years due largely to a family planning programme supported by growing prosperity and social awareness.

### Merit

President Oduber's particular merit is that he took office at a time of deep economic crisis and not only overcame the crisis but accelerated social reforms. At the time of his inauguration in May 1974, the country's currency had just been devalued and Costa Rica, along with much of the world, was being shaken by increased oil prices and the general wave of inflation. Prices rose by over 30 per cent in 1974 and by 20 per cent in 1975, with real income slumping the first year and stagnating the second. But a strict monetary policy brought inflation under control—it rose by 4.3 per cent last year and will register about 6 per cent this year—with real wages rising again. Unemployment, falling from 7 per cent in 1974 to 5.2 per cent, this spring and the GDP growing by 2.1 per cent in 1975, 4.3 per cent in 1976 and an estimated 6.9 per cent this year. Having recovered from the 1974 crisis, in fact, Costa Rica has been able to absorb its vast new coffee revenues without major strain on the economy and with only slightly stronger inflationary pressures.

"You've never had it so good," current election period is most remarkable for the absence of political tensions. There is no violence—there isn't even careless rhetoric—and all parties in the process know that clean elections are guaranteed. The Supreme Electoral Tribunal assumes growing importance during this period, taking direct charge of the country's police and security forces in the final weeks before voting and acting as an unbiased arbiter of party disputes. And on Election Day, supported morally by a truly independent judiciary, the Tribunal sends respected non-partisan delegates to watch over all polling booths. The worst thing about elections in Costa Rica, in fact, is that followers of different candidates gather in long automobile convoys and drive through San José blowing their horns to rhythmic collisions. The little green and blue party flags already flying above many homes, however, testify to the fact that support for one or other party is a matter of public pride and not nervous secrecy.

There is a new mood of confidence and reassurance about Costa Ricans these days. Not only have coffee earnings buoyed the economy, but President Oduber has also ended the country's mental isolation. In addition, a functioning democracy and a respect for human rights are no longer seen as idiosyncracies of the political maverick of Latin America, but rather as examples being urged on the continent by the U.S. and Western Europe. "Nothing ever happens here," a visiting journalist jnkingly complained. "Well, that's now the big story," a Costa Rican official replied. "The unusual thing today is to have free elections and to respect human rights."



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- Investigation of new markets.
- Co-ordination and technical assistance in organizing trade missions abroad and for the participation of local manufacturers, producers and exporters in international fairs and exhibitions.
- Study and evaluation of companies which desire to apply for the benefits granted by the Export Development Law; technical assistance in the preparation of their requests.
- Information to local manufacturers, producers and exporters relating to export mechanisms:
- Export regulations and procedures in Costa Rica.
- Import regulations and procedures at country of destination.
- Transportation facilities, including schedules and tariffs.
- Evaluation of individual exporting capacity.

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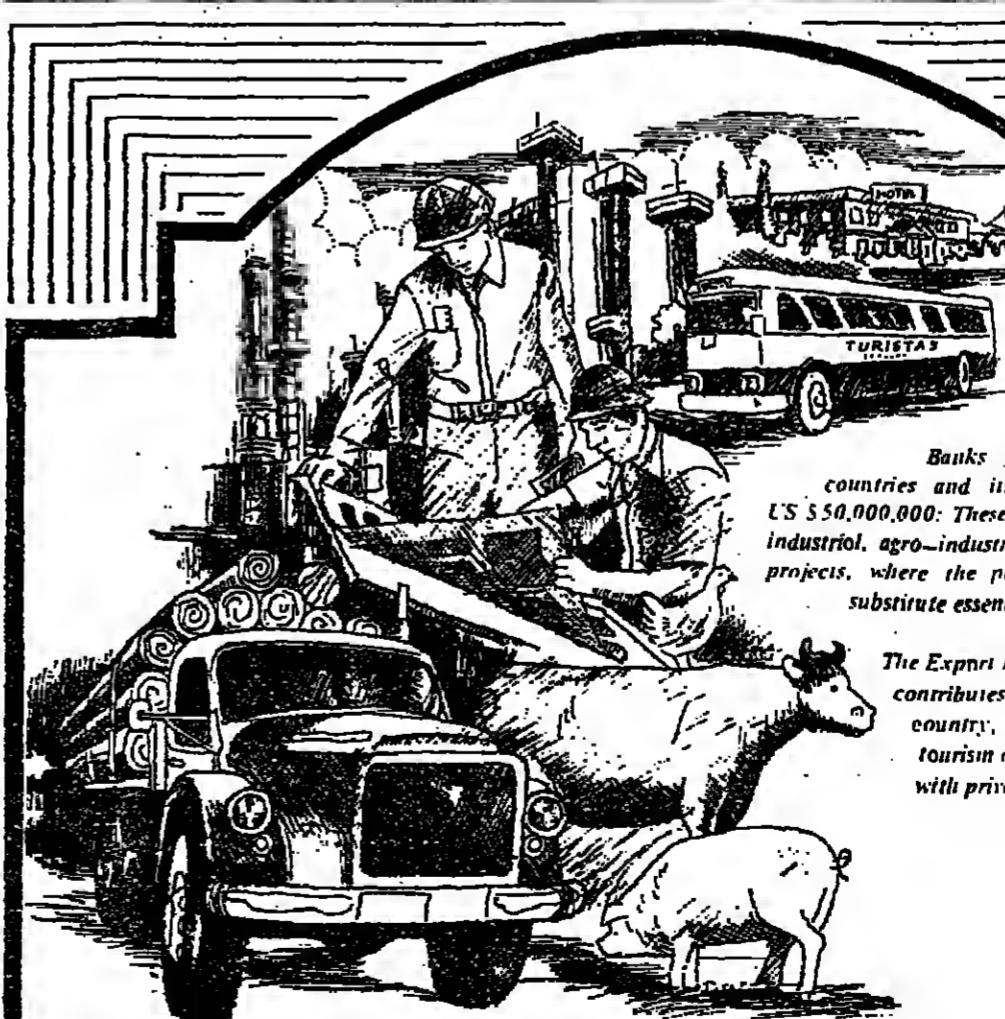
The Centre is a promotional institution, sponsored by the Government of Costa Rica, whose main function is to give technical assistance to investors and exporters. This assistance is free of charge.

### INVESTMENTS

In this field the Centre offers, amongst other services, the following:

- Information encouraging national and foreign capital investments in the country.
- Supplies information regarding facilities, regulations and the investment climate in Costa Rica, rendering technical assistance at the various stages of the requests for approval of industrial projects.
- Assistance in the preparation of industrial and agro-industrial project profiles.
- Advises regarding incentives, facilities and procedures for the installation of Draw Back Industries in the country.
- Offers technical assistance in co-ordination with national and international institutions, channelling specific requests originating from the industrial sector.

Through the Export Development Fund, the Central Bank of Costa Rica, is financing exports, stimulating tourism and substituting imports.



The Central Bank of Costa Rica has placed at the disposal of the Commercial Banks funds coming from foreign countries and its own resources that total US \$50,000,000. These funds have been destined to industrial, agro-industrial, agricultural and tourism projects, where the product is for export or will substitute essential imports.

The Export Development Fund efficiently contributes to the development of the country, fortifying its exports and tourism capacity in direct collaboration with private enterprise.

For further information, get in touch with the Central Bank of Costa Rica.



BANCO CENTRAL DE COSTA RICA

P.O. BOX No. 10058  
San José, Costa Rica  
Central America

## COSTA RICA II

# Banking system works well

CONSIDERING THAT nationalisation of banks is a favourite cry of Left wingers around the world, it is surprising how unradical the effects of just such a measure in Costa Rica have been. At the time, of course, 29 years ago, the State take-over caused consternation both at home and abroad. But in the end, the sector continued to be run by very much the same people, with the nationalised banks even retaining their old names. If, as history now records, the purpose of nationalisation was to break the political power of the banking oligarchy, it certainly happened painlessly. And to-day, not even conservative political parties are in favour of de-nationalising the sector.

In reality, the banking sector is not entirely nationalised even to-day. The four principal commercial banks—Banco Nacional de Costa Rica, Banco de Costa Rica, Banco Anglo-Costarricense and Banco Crédito Agrícola de Cartago—are Government-owned and are the only ones allowed to provide ordinary over-the-counter services. The vast majority of domestic savings are therefore channelled into their current and savings accounts. But four other banks—Banco Lyon, Bank of America, El Banco Latinoamericano and Banco de la Construcción—operate privately, without direct access to local savings, but permitted to lend from their own capital and to operate on the foreign exchange market. Finally, 32 private and State-owned development banks—or *financieras*—are allowed to compete for fixed-term deposits through the sale of negotiable bills of exchange and bonds *financieras* or three-year bonds.

The entire banking sector, however, is strictly controlled by the Central Bank which establishes and imposes credit priorities. And, more than the nationalisation itself, it is this control which has converted the country's banks into such a valuable socio-economic instrument over the past three decades. And, in practice, this kind of "creeping nationalisation" of the sector is taking place more and more throughout the world today, with governments aware that control can be achieved without resort to the controversy of nationalisation.

Costa Rica's main objectives, however, have been achieved. In 1947, the year before the take-over, only 31.4 per cent. of credit was destined for agriculture and industry, while in 1975 this share had risen to 68 per cent., with less than 15 per cent. going to commerce and services. The structure of savings has also changed from being overwhelmingly liquid and short-term to being largely middle-term, giving the banking system greater strength notwithstanding any rise in deposits. In practice, though, assets of the entire banking system have grown from 401m. colones in 1974 to 904m. colones on June 30 this year.

## Growth

The social orientation of the banking system can also be illustrated by the rapid growth in the number of branches in the country—from 39 in 1948 to 188 to-day, many of them tiny rural offices which are nevertheless attracting savings and providing credit. As a result, even though Costa Rica has the smallest population of the five Central American countries, it has the largest banking network with the highest assets. Over the past three decades, perhaps the principal financial priority has been to provide credit to the country's majority of small and medium-sized farmers. Unlike the rest of Central America, land ownership in Costa Rica is relatively well distributed, with few huge latifundistas and minimal fragmentation of property by *minifundistas*. So unlike other Central American bankers who can concentrate their credit on the handful of big producers of lucrative export crops and ignore the small subsistence farmers, Costa Rica faced the challenge of servicing thousands of medium-sized producers.

The Central Bank has therefore long insisted that a significant amount of credit—varying from bank to bank and from year to year—be destined to agriculture and cattle-farming. And, more recently, as the government has lost some of its enthusiasm for import-substituting light industries and has again recognised the importance and potential of food exports, this trend has been re-emphasised. In its plan to guide each of its four banks towards greater specialisation, the government has therefore assigned the largest bank—the Banco Nacional de Costa Rica, which accounts for 45 per cent. of total assets—the main responsibility for the agricultural sector. The Banco de Costa Rica will become an industrial bank, the Banco Anglo-Costarricense will service commerce and the Banco Crédito Agrícola de Cartago will give priority to housing.

The role of the private financial institutions is still somewhat ill-defined, with some foreign bankers uncertain whether they should continue to operate domestically or simply reduce their activities here to representing their banks' international dealings. As of June 30 this year, for example, total assets of the state banks were 8,900m. colones against just 132m. colones for the four private banks. The *financieras* also find their credit freedom strictly restricted. Ten per cent. of their deposits must be placed with the Central Bank as a legal cash reserve requirement. Of the balance, 10 per cent. must be destined for 8 per cent. government bonds, at least 9 per cent. to agricultural credit earning just 8 per cent., a maximum of 45 per cent. to industry and construction at 14 per cent. and 36 per cent. is left for free commercial lending at rates up to 20 per cent. But since the *financieras* are paying 9 to 12 per cent. for deposits of between one and three years, their profit margins are sharply reduced, widely successful—about 190m. colones in fact led the First National City Bank of Chicago to close down its operation in 1974 and the Chase Manhattan City Bank of Boston to follow suit last year, while Citicorp and the First National City Bank of Boston are essentially using their *financieras* as representative offices.

Although the nationalised banking sector has fulfilled its primary purpose of stimulating the agricultural and industrial development of the country as well as discouraging the concentration of wealth, many analysts are therefore considering ways of increasing its efficiency and agility. Its low profitability is justified in social terms, but the system has also been criticised for its high level of bad debts. Although various mechanisms exist to prevent the politicisation of the state-owned banks, there is nevertheless evidence that some bad debts are linked to credits granted for reasons of influence. Former President José Figueres, whose numerous companies are believed to be in difficulties, is perhaps the most prominent example of a politician excessively in debt to the official banks.

Another drawback of the nationalisation is that it cut off Costa Rican banks from the techniques and expertise normally imported by foreign banks. Costa Rican bankers may therefore be equipped to operate on international markets. The absence of competition in the sector could in the long run weaken its ability to stimulate savings, although the coffee boom of recent months has strongly bolstered domestic resources, while the high interest rates prevailing here are now attracting speculative money from abroad. To absorb excessive liquidity, the government this spring issued 500m. colones (\$58.5m.) worth of "coffee bonds" which pay 12 per cent. per annum, tax-free and mature in three years. They have proved less than successful—about 190m. colones worth have been sold—but are gaining acceptance.

## BASIC STATISTICS

Area	19,550 sq. miles
Population	2.01m.
GDP (1976)	\$2.05bn.
Trade (1975):	
Exports	\$493m.
Imports	\$694m.
Exports to U.K.	\$8.9m.
Imports from U.K.	\$9.1m.
Trade (1976):	
Exports	\$539m.
Imports	\$773m.
Exports to U.K.	\$196,000
Imports from U.K.	\$8.6m.
Imports from U.K.	\$8.6m.
Currency:	
colón	₡=15.1 colones

Fully-liquid 8 per cent. bonds and three-year 12 per cent. bonds issued by the government, however, have proved more attractive.

The strengthening of the country's balance of payments due to coffee revenues has reduced the government's foreign borrowing needs and bankers are even turning away offers of credit for lack of viable projects. The public sector's foreign debt last December stood at \$646.4m., with debt servicing for 1976 totalling \$87.5m. But, compared to the previous year, the ratio of foreign debt to GNP and of debt servicing to exports both fell—to 5.7 per cent. and 12.1 per cent. respectively—providing evidence of the healthy margin for further indebtedness.

## Pressures

With the anticipated fall in coffee earnings, though, Costa Rica may face new payments pressures next year which may in turn require a higher rate of foreign borrowing. Based on the country's recent record, though, it should have little difficulty in doing so at competitive rates.

More than anything, in fact, the government's success in controlling inflation after its 1974 surge has ensured the survival of the banking sector as it has existed over the past 30 years. Confidence in the system is high and hundreds of thousands of small savers and borrowers continue to use it with faith. The "under-employment" and "over-employment" criticised by some analysts may exist, but it is also more costly to lend 300 farmers 5,000 colones each than one investor 1m. colones. "The State banks have a social function," former Economics Minister Raúl Hess Estrada wrote recently. "The credit they provide and administer is costly and troublesome. But implicit in it is the democratisation of credit, technical assistance and, in general, a policy of stimulating production and redistributing incomes."

Alan Riding

# Economy still vulnerable

THE DIFFERENCE between, increasing to some \$950m. compared with \$774m. The deficit on current account, trimmed gradually since 1974 from \$266m. to \$218m., and then to \$205m. goes up must come down "still applies.

The recent sharp rise and subsequent fall in world coffee prices has done two things for Costa Rica. First, it has rescued the country's international accounts by providing a sudden extra inflow of coffee dollars, after several bad years. Second, it has brought home some of its unused potential in activities such as fishing and forestry.

"But in 1980 we are going to have problems," warned Sr. Fernando Zumbado Jimenez, the new Minister of Planning, U.S.-educated and still in his early thirties. Opportunities for a sharp increase in the value added by traditional exports—through wider or better land use—are limited, and other resources such as hitherto untapped bauxite deposits are unlikely to be tapped until the 1980s. In the meantime, Costa Rica's balance of payments will be increasingly burdened by the cost of foreign borrowing.

Costa Rica's overall foreign debt, according to an authoritative estimate, is likely to touch \$1bn. at the end of this year. Most of the debt belongs to the public sector, which before the coffee boom was in a position, with foreign reserves rapidly approaching zero, of having to contract loans from abroad regardless of the cost.

## Improved

Monetary reserves have since improved dramatically with higher foreign exchange earnings and recent inflows of credit. Between the end of 1975 and the end of 1976 the level doubled to \$124m., and it had almost doubled again by the end of July to \$243m.

The Government now wants to send some of its credits back. Some high-interest and short-term loans, contracted in desperation, are to be repaid early. At the same time the Government plans to use part of its foreign reserves for key investment programmes such as new irrigation technology in depressed farming regions.

The sudden inflow from coffee produced the beginnings of a consumer boom. The Government launched a stabilisation bond, the "coffee saving bond," aimed at mopping up \$60m. on the home market. The issue has been a flop, even though it carries a 12 per cent. interest tag, 4 per cent. above standard Government issues. By the end of June, only about 15 per cent. of the bonds had been sold, and the Government has since had to advertise heavily in order to get rid of the rest.

The Government, meanwhile, continues to call on domestic savings to cover its budget deficits. It plans to raise some \$80m. in three different issues—an "internal debt bond," a "public investment bond" and a "political debt bond"—to bridge most of its planned

budget gap, leaving about 10 per cent. to be borrowed from abroad. Drawing on funds to this is costly—the domestic interest rate is 18 per cent. carry a slight repurchase of about 10 per cent. from international agencies about the mounting cost. Government is sticking to policy of deficit financing. Zumbado stated simply: "But in the next two years may have to be careful." Government speculates: "year is set to increase by 10 per cent.—reflecting higher and additional outlay selected areas such as education and priority farm projects about \$45m., not much spending by independent erament agencies, which to about \$650m., largely by foreign loans." Revenues are expected to rise by nearly 10 per cent. about \$224m.

The growth of the Costa Rican public sector is one of the favourite topics of opposition politicians. They have as far as 38 in counting number of new taxes introduced during three years of the sent Government. Government spending to-day accounts nearly a fifth of gross domestic product.

Private business accuses Government of usurping and some like to bring on the spectre of Costa Rica going the way of Uruguay, a country which before its political troubles served as a model Costa Rica's post-1948 economic policies.

There are other worries both the external and, in front—the future of the pace of payments, with the of running into an unmanageable financial situation next year, and the maintenance of employment levels. The industrial growth alone seems likely to produce the impact needed, an export to provide enough jobs to compensate for stagnation in farms, both concerns the need for strengthening diversifying the primary sector.

One of Costa Rica's problems may turn out to be its past neglect of its which have been destroyed, with the impoverishing a good potential frontier farm. Attention is now beginning to be paid to managing the and exploiting them—more for timber and, as is seen more fully elsewhere, in logging up industries more geared to materials which or which can be, bome good.

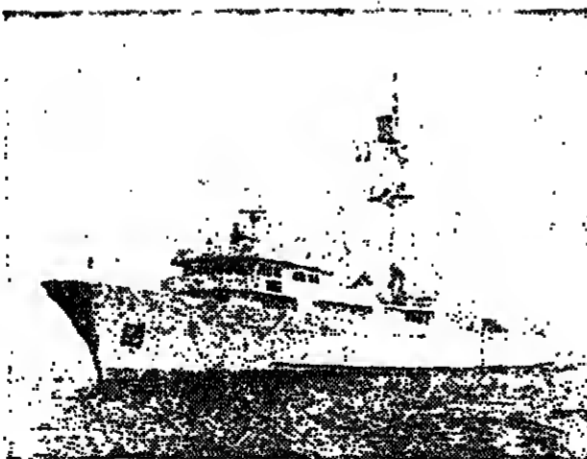
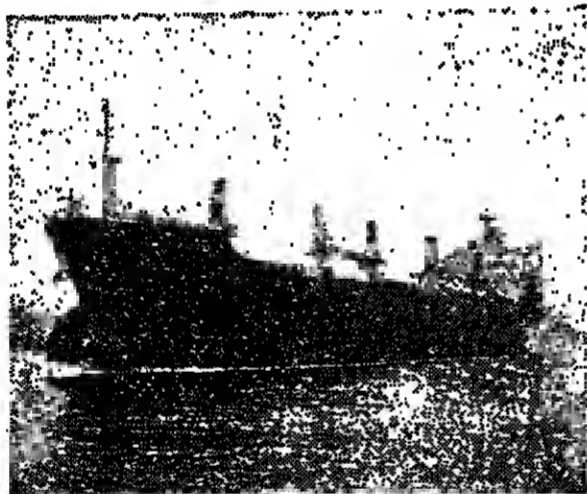
The trouble is that it is cult to imagine, especially good coffee year, that the much wrong with Costa devold as it is of the gross and political inequities dent in many other American countries. A label for his country's tendency to ignore the problems—the "complex."

David W.

Around the globe countries are striving to develop their diverse resources to improve the living standards of their peoples. Effective development requires a rare combination of technological, management and financial skills. Only with these ingredients is it possible to ensure that each project is undertaken in the right way, at the right time and place and with the right financial backing. Dashwood Finance Company has been putting the right ingredients together for a wide variety of projects over a number of years and in many different countries—recently bulk carriers for the Far East, specially designed tuna fishing vessels for Peru and a sugar factory complex for the Bicolandia Sugar Development Corporation. New agro-industrial, petrochemical, transportation and fisheries projects continue to present a challenge and opportunity for Dashwood to deploy British expertise in the service of nations everywhere.

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# More equal than others

THIS ARTICLE is really about graduates.

With average per capita income now around \$1,000 a year, Costa Rica is emerging from the aid and soft-loan bracket, which makes the name given to it by Columbus and crew a little bit less of a misnomer.

Income is probably better distributed in Costa Rica than anywhere else in Latin America except Argentina. But, although some of the wealth at the top has been shaken down in recent years, the distribution has mainly affected the middle class and public sector workers, rather than the people at the bottom of the pile.

Half the national income is concentrated in the upper 20 per cent. of the wealth bracket, while the bottom 20 per cent. receive only about 5.4 per cent. of the total, according to a recent analysis. A survey by the General Statistics and Census Authority at the end of last year showed that 36 per cent. of workers earned less than \$93 a month. In rural areas, most people fell into this category. In the towns, the majority earned wages of between \$47 and \$233 a month.

The Government has sought to squeeze wages at the top and increase them lower down. The minimum went up 13 per cent. to \$3.27 a day in January. But the tendency seems to be that Costa Rica is getting fat around the middle. In lieu of extra income at the bottom, President Oduber's Government has brought in considerable improvements in services for the poor, concentrating its attention on rural conditions.

Not everyone is satisfied with this. The three universities, which have been allocated \$38m., are all in financial trouble and are pressing for more support. University education has already run into the problem of over-production of graduates.

An imaginative "family assignments" plan, aimed at the rural poor who make up a fifth of the population, bringing together services for water supply, sanitation, electricity, health, education, professional training, nutrition and housing. The programme is financed from increases in sales taxes and a levy on employers' pay-rolls.

Social problems are also coming to the surface in the towns in the form of increases in prostitution—often involving teenagers—and robbery. The Government has had to put a priority on public security, run by a smartly-outfitted Civil Guard, which is due to be reorganised.

## Jobless

Sociologists link these trends to the problem of rural unemployment. Although the jobless total for the country has been brought down to 4.6 per cent. of the workforce, it is higher in the country most of the year (dropping to almost zero in November for the coffee harvest), and about 7 per cent. of the workforce is considered under-employed.

While Costa Rica likes to nurture its reputation as a place where "every man has his bit of land," the reality is less cosy. There are many semi-employed rural labourers, and the land is unevenly distributed. Although the *hacienda* system of other countries never existed here, a third of Costa Rica's farmers own less than 2 per cent. of the farmland. Productivity in these small plots is low, and, while the urban turn out graduates by the thousands, there are not enough people in agriculture.

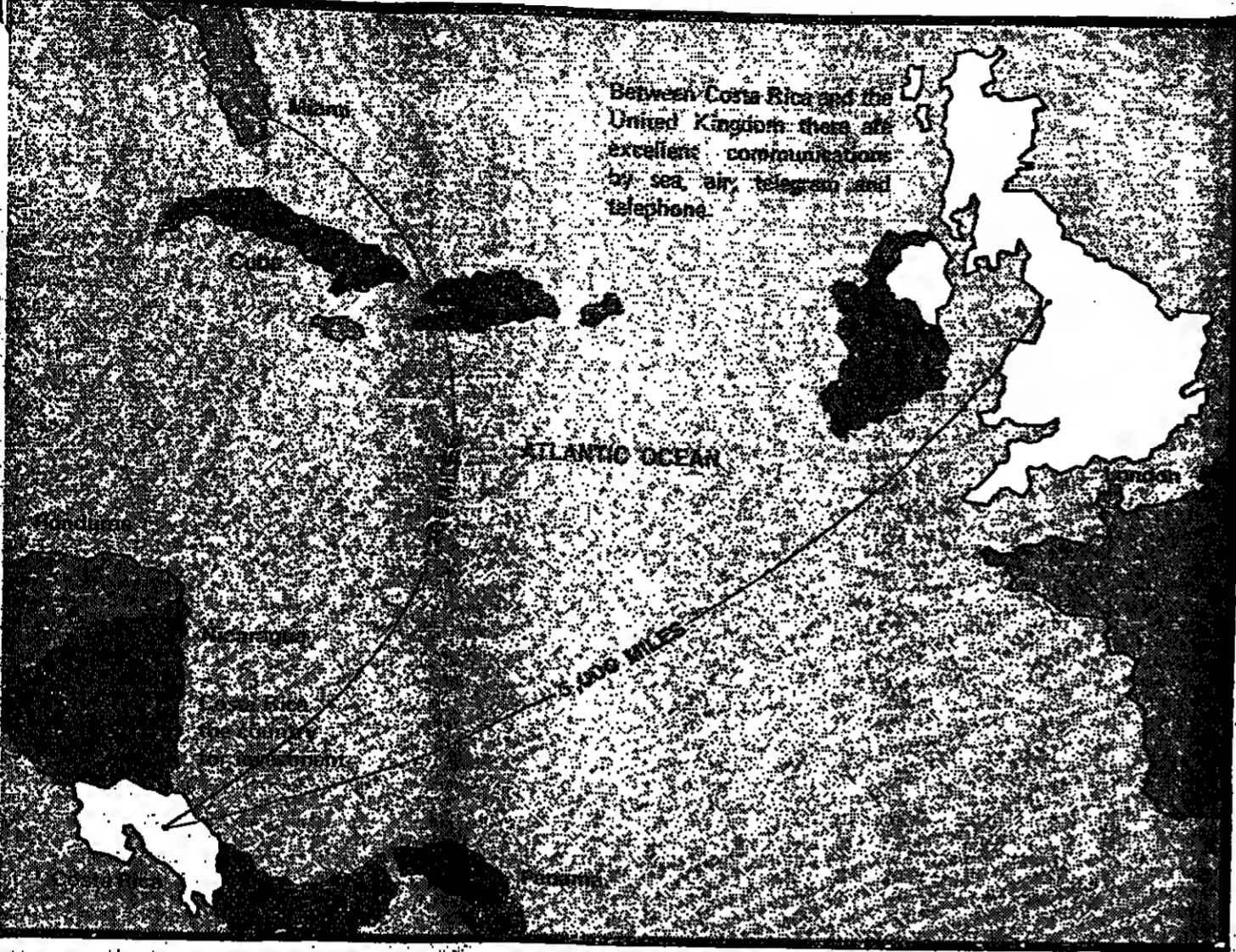
One observer went to the extreme of imagining a Costa Rica as "a land of unemployed landless peasants by unemployed graduates."

But you have to go your way in Costa Rica. The blatant social injustice, the edge of the Atlantic coast, the banana port of Puntarenas, is a stark reminder of the social problems. There is a stark reminder of the social problems. There is a stark reminder of the social problems. There is a stark reminder of the social problems.

The local community action's complaints have led Government to set up an agency committee to deal with the district's problems. A San José newspaper outraged to note that in place "it is normal to see numerous women and children managing with buckets or other receptacles they can carry water to their homes. The sentence might be: 'Anybody's general description of Latin America or of most countries with per capita income \$1,000 a year.' The exception tends to confirm the rule—and that is that Costa Rica is not equal. It is more equal than others."

David W.

ADVERTISEMENT



# COSTA RICA

## the country for investment

### The Social Development and Family Allowance Programme in Costa Rica

More than 51% of the total population under 15 years of age is now receiving, under this programme, a free meal a day. The meals, which they get in local schools or nutritional centres, are fully cooked and contain the requirements for healthy growth. This is part of an impressive programme which represents in 1977 an investment of US\$30 million, equivalent to 10% of the government budget, financed out of payroll taxes and a retail sales tax.

The programme has widespread public support. Above all, it is enthusiastically backed by low-income families both in rural areas and in cities. Child nutrition is only one aspect of a comprehensive programme called Social Development and Family Allowance, which after many years of planning, is now in full swing in Costa Rica, thanks to initiative and decisive impetus of the National Liberation Party (Social Democratic) now in power under the leadership of President Daniel Oduber.

**Background:** It all started in 1970, when the National Liberation Party decided to give greater support to programmes aimed at improvement of social conditions, particularly among the low-income majority of the nation.

A draft law was prepared called the Family Allowance, similar to the classical family assistance programmes enacted in Europe after the First World War. In 1973, Mr. Oduber then President of the Legislative Assembly and later presidential candidate in the 1974 elections, set up a small committee for his direct supervision, whose purpose was to weave into the new law his own ideas about enlarging the scope of the programme.

#### The Programme Today:

Instead of only paying a cash allowance to mothers of low-income families, the programme, as it was enacted during the administration of the now President Oduber, also includes curative and preventive medical care, treatment of alcoholism, aid and protection of the young, environmental sanitation, nutritional education, production of food by community vegetable gardens, and vocational training.

These activities, aimed fundamentally at the infant population, receive the allotment of 80% of the programme's resources. The remaining 20% covers retirement pensions for persons over 65 years of age who have not contributed to any of the existing social security programmes in Costa Rica.

#### Some Figures:

Since its approval in December 1974, the number of direct beneficiaries of the nutrition programme has reached 400,000 children which represents 51% of the population under 15 years of age.

Under this programme, 220 health posts have been established throughout the country, serving the total dispersed rural population.

There are 43,000 people over 65 years benefiting from pension payments, and 375 training courses were administered this year to 14,000 young men and women, in a variety of trades and crafts.

A total of 138 water supply networks have been installed in 170 rural communities. There are 2,500 school dining rooms functioning, and 1,500 community vegetable gardens.

But all these figures must be interpreted taking into account that Costa Rica is a tiny country of 51,000 square kilometres, and a little more than two million inhabitants.

#### Basic Criteria:

According to current scientific opinion, malnutrition can cause irreversible brain damage in children under 5-years-of-age. It is also well known that eating habits are deeply engrained; changes can only come about through education at a very young age. The Social Development and Family Allowance Programme, as it is operating, attacks the problem of malnutrition on two fronts: it compensates for nutritional deficiencies in expectant mothers and small children, and it provides nutritional education.

Another aspect and perhaps its most important, is that every community must organise itself and contribute its own work effort, as a prerequisite to receiving the programme's benefits. This has resulted in massive support for this effort by the Costa Rican people.

#### How the Programme Works:

Various government institutions participate in the programme, each one responsible for specific aspects. For example, the Ministry of Health carries out the activities related to environmental sanitation, health and nutrition. The Ministry of Education is responsible for setting up the school dining halls and nutritional education courses. The Social Security System and the Ministry of the Treasury collect the funds. Other specialised governmental agencies are each in charge of drinking water facilities, food supply, social benefits, vocational training etc.

The work of these institutions is carried out within the framework of a general plan approved by the Presidency of the Republic under the coordination of a small technical secretariat.



Lic. Daniel Oduber Quirós—President of the Republic of Costa Rica

### Greetings from the Executive President of the Central Bank of Costa Rica to readers of the Financial Times

The good name of Costa Rica has spread throughout the entire world and the virtues of this country, situated in the centre of Latin America, are praised everywhere.

What has Costa Rica got that makes it so attractive to the visitor from other latitudes? First and foremost, a representative and functioning democracy. Since the last century, our country has had really free elections. As a result, the country enjoys an atmosphere of peace, calm and mutual respect. The special character of the Costa Rican does him a civilian: militarism will never gain strength in our traditions. For this reason, in 1949, prohibition of the existence of an army became part of our constitution.

Since the dawn of the Republic, education has been the principal preoccupation of our leaders. Approximately 35% of the nation's budget is devoted to education. For this reason, Costa Rica is one of the highest literacy rates in the continent.

An equitable distribution of wealth, together with a large middle class, serves to guarantee a good degree of social stability.

Since 1975, the Social Security service reaches practically the entire population of the country: workers and indigenous inhabitants, a unique situation in Latin America. The Government has also set up a family allowance plan, financed by the working population and private enterprise, which contributes to the supply of three meals a day for children from the poorest classes, to pensions for people with small means, to housing for people in the lowest echelons, to the building of health centres in rural areas, to the allocation of funds towards the construction of public health: rural health centres, day centres, etc.

Costa Rican hospitality is proverbial: the visitor is made at home. It is not a coincidence that many people from overseas with a pension from Costa Rica as a place to enjoy the fruits of their retirement from active life. Frequently one

sees in the Press interviews with them where they say that they chose Costa Rica after having travelled to many countries. Amongst the reasons for their choice, they quote our basic feeling for the rights of the individual and the surprising adherence of every citizen to a just balance of equality and social responsibility. They also mention how impressive it is to see the President and high officials mix with the people, chat informally and, of course, without bodyguards.

The integrity of our courts is a guarantee to the foreigner and the Costa Rican in search of justice.

Besides these characteristics of its inhabitants, Costa Rica has a special beauty: rare in a small country: 50,900 square kilometres (19,652 sq. miles) or approximately one fifth the size of the United Kingdom. Tropical beaches with luxuriant vegetation, bathed by warm seas (the Caribbean and the Pacific). The Central Plateau at 1,200 metres (3,937 feet) has a springtime climate all the year round: two thirds of the population live there. Picturesque mountains, with invigorating freshness, offer the traveller their meadows, cypress trees and a clear sky free from smog.

Costa Rica, as an eminently agricultural country, has overcome, from the economic aspect, the problems that originated in the 1973-1975 period from inflation and the high prices of petroleum products. This has been acknowledged by international organisations, especially the International Monetary Fund and the World Bank.

At this time, great emphasis is being placed throughout the country on the development of agriculture and industry: we believe that the future of Costa Rica lies in this area: as a first step, we have adopted an aggressive policy to stimulate the export of non-traditional products, principally towards countries of the Caribbean area which offers market potential for Costa Rica.

Our country possesses naturally favourable conditions for agriculture and we should not restrict ourselves to primary products, as we are currently doing, but go further to the stage of the industrialisation

tion of agricultural products, especially with the existing world crisis in food supplies.

The perfect co-ordination of Governmental fiscal policy and the Central Bank's monetary and credit policies have enabled us to reduce the inflation rate from over 30% in 1974 to a stable level of around 5% at the end of this year. In addition, monetary reserves have risen amazingly to reach the highest level in our history and we predict for 1977 an increase in Gross National Product in real terms of 6.9%.

Our currency grows continually stronger due to the economic scene. The interest rates prevailing on local dollar deposits (higher than the interest rates in international markets), combined with systems that enable the businessman to have guaranteed recuperation of his entire dollar deposit, plus the respective interest payments and the complete freedom of exchange for the withdrawal and entry of capital, make our country an ideal spot to invest. Above all, in Costa Rica, you find a favourable investment climate owing to economic stability, political and social peace and the fact that we are the maximum exponents of human rights in Latin America.

Costa Rica is a small country with big opportunities. The Costa Ricans have great faith in the future of their country for several reasons: the political economy has been well designed and implemented; we are a nation that works hard in an atmosphere of social security; conditions of public health are continually improving; the business sector has taken a firm and exalted place within the Central American Common Market and is constantly seeking new external markets for our products; finally, we follow a path of political justice that orients the country towards the maintenance of its objectives: peace, liberty, security and productivity.

For all these reasons, it gives me great pleasure to introduce you to this progressive country and invite you to participate with us in our enterprise — Costa Rica.



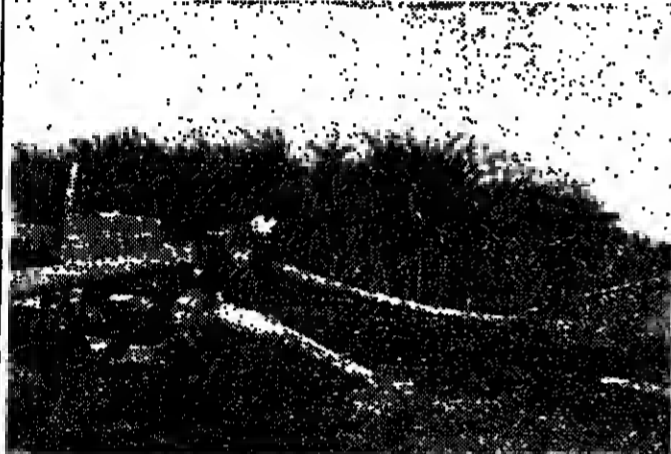
Lic. Porfirio Morera Batres—Executive President, Central Bank of Costa Rica



Founded in 1973, CODESA is a vigorous institution whose main objective is to enrich the economic development of Costa Rica. Several of its major activities consist of feasibility studies, financing, and counselling, mostly designed to establish new enterprises. As a development corporation, CODESA activates progress through means, which duly co-ordinated, resolve problems related to manpower, export promotion, service activities, foreign exchange reserve fund, promotion of new fields of investment and the increase of financial sources for businessmen.

CODESA is currently involved in a variety of projects, including a cement plant, a sugar mill, a sulphur plant, urban transportation, shipping, petroleum exploration, an aluminium continuous-casting plant, railways, mining, tourism, and Central America's first Stock Exchange.

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2. It is the positive policy of the Government and the people of Costa Rica to welcome foreigners and foreign investment. Guarantees to foreigners are written into the Constitution.
3. Because of its high level of public education, managers, supervisors and skilled workers at all levels can be obtained and trained in the shortest possible time. Its 88% literacy rate is one of the highest in the world.
4. Generous tax, duty and export incentives are available to qualified enterprises.
5. There is a protected-market of 18 million people in the Central American Common Market and a privileged position exists for export to the United States of America and the rest of the world for many products.
6. Its temperature, benign climate, culture and education are favourable to executive family living and high rates of productivity.
7. It will soon have the highest per capita rate of hydroelectric, low cost energy production in the world.
8. There is no military power; security is entrusted to a police force whose numbers are fewer than those of public school teachers.
9. Costa Rica has excellent air and sea connections to the United States and the rest of the world, and is connected by the Inter-American Highway to Central America and Panama. It has outstanding direct dialling or operator telephone service throughout the world, as well as telex and cable service.
10. There are no racial, religious or nationality problems.

If you accept the foregoing ten reasons as being unique, then it is certainly in your interest to investigate the possibility of investing in Costa Rica. A recently published, 70-page INVESTOR'S GUIDE TO COSTA RICA is available at our office for \$US7.00 (including airmail and handling).

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## COSTA RICA IV

# Growing international role

OVER THE past year, Costa Rica has come of age in international affairs, suddenly being recognised by both the United States and Western Europe as a model nation that is achieving political stability without repression and economic development without blatant injustice. This belated recognition has in turn given Costa Rica a prestige and moral authority abroad quite disproportionate to its size and population. As one of only two functioning democracies in Latin America to-day—Venezuela is the other—Costa Rica is listened to today.

The visit to London two weeks ago by Costa Rica's President Daniel Oduber was therefore not just another visit by an obscure leader of a distant land about which we know little. Rather, it gave Britain the opportunity to offer real economic and political support to a country that is achieving through quiet reform and pressing the military regimes of Latin America through its exemplary respect for human rights.

Having long been isolated in a region of entrenched authoritarianism, Costa Rica at last feels vindicated. President Oduber has managed to establish strong links with the Social Democrat governments and parties of Western Europe, making Costa Rica the first Latin American member of the Socialist International and himself becoming one of the organisation's vice-presidents. Similarly, with President Carter role of regional statesman, using in the White House, Costa Rica's prestige as an ally last felt "understood" in Washington. Mrs. Rosalynn

Carter has visited San José, self-satisfaction. And, most received in Washington and, placed most significant of all, Costa Rica's 14-year-old campaign to create a United Nations High Commissioner for Human Rights or both the U.S. and Panama has been endorsed by Mr. Carter. The proposal may never, in fact, be approved at the United Nations, but Washington's support nevertheless adds to Costa Rica's moral authority.

Changing circumstances have therefore helped give resonance to the country's foreign policy. But the coherence given to government by President Oduber has also helped to strengthen the management of foreign affairs. Sr. Oduber's mercurial predecessor, Sr. José Figueres, was unquestionably better known internationally. But he was also taken less seriously. During his earlier presidency in the 1950s, he too had formed part of a small group of democratic regional leaders trying to fight dictatorships of Left and Right. But he did so through intrigue and confrontation—he created the inoperative Caribbean Legion of mercenaries to overthrow Presidents Trujillo in the Dominican Republic, Somoza in Nicaragua and Pérez Jiménez in Venezuela—and his conflicts with his neighbours never brought positive results.

### Prestige

In contrast, President Oduber, himself a former foreign minister, has been attracted to the role of regional statesman, using in the White House, Costa Rica's prestige as an ally last felt "understood" in Washington. Mrs. Rosalynn

But this balancing act is not always easy to sustain, particularly when principles are involved. At the meeting in Grenada in June of the Organisation of American States, for example, Costa Rica annoyed both currents of opinion by endorsing the American call for tighter monitoring of human rights violations in Latin America and by "understanding" the right-wing military view that leftist terrorists are the main violators of human rights. Similarly, in Colombia in August, Costa Rica joined five other countries in calling for respect for territorial integrity and self-determination in Guatemala's dispute with Britain over the disputed colony of Belize. The other countries understood their statement to mean support for Belize's independence without threat of invasion by Guatemala, but, after furious protests from Guatemala City, Costa Rica explained that it was referring to the territorial integrity of Guatemala and the self-determination of Belize. No one was of course convinced.

On the other hand, during the negotiations between the U.S. and Panama on a new canal treaty, President Oduber played an important role mobilising regional support for Panama at the same time as tempering some of Panama's more extreme and unrealistic demands and urging the Carter administration to conclude a new treaty. When the final accord was signed in Washington on September 7, both President Carter and General Omar Torrijos, Panama's strongman, paid tribute to Costa Rica's contribution. Sr. Oduber's role is not over, though: he is still closely advising General Torrijos on his tactics to ensure ratification of the new treaty by the U.S. Senate.

As neighbour to Panama and as friend to the U.S., Costa Rica of course had a direct interest in the successful conclusion of a new Canal treaty, particularly since it was assured continued free transit through the waterway. But the new treaty has also served to justify Costa Rica's innate pro-Americanism, which was not infrequently put to the test during the Nixon administration. "Roosevelt, Kennedy and now Carter all saw Latin America in a different way," Sr. Oduber said in a recent interview. "Other Presidents have seen Latin America as a region where multinational corporations can act with the support of the State Department. But now Carter wants to treat each country separately. Costa Rica may be neighbour to Panama and Nicaragua, but all three countries are totally different."

Costa Rica's principal hope is, of course, that American influence will accelerate the dismantling of the continent's right-wing dictatorships and strengthen the handful of traditional democracies. Already, President Oduber forms part of a cabal of civilian Latin American leaders—along with Presidents José López Portillo of Mexico, Alfonso López Michelsen of Colombia, Carlos Andrés Pérez of Venezuela and Prime Minister Manley of Jamaica—who meet regularly and informally and even more frequently consult each other on regional and international questions by telephone. With American support, Sr. Oduber hopes to see this group extended to include other Caribbean leaders in order to create a new political and economic region comprising the islands of the Caribbean and the Latin American coastal states of the area. There is even talk, advanced by U.S. Ambassador Andrew Young's recent swing through the region—of forming a huge development fund to lift the most backward countries of the area from their poverty. Symbolising this new attitude, Costa Rica is already providing symbolic technical assistance to Haiti.

### Neighbours

Costa Rica's main foreign policy remains its relations with its closest neighbours and fellow-members of the all-inclusive Central American Common Market, Nicaragua, El Salvador, Honduras and Guatemala. Since El Salvador and Honduras went to war in 1980 and Honduras pulled out of the Common Market one year later, the integration experiment has foundered. Intra-regional trade continues to grow, but little progress has been made in achieving monetary or customs union or in assigning industries to different countries to obtain economies of scale in the tiny 16m. person market. Without a settlement of the dispute between Honduras and El Salvador—Honduras still does not allow Salvadoran goods to pass through its territory to reach Nicaragua and Costa Rica—the Common Market cannot hope to recover. And, even when restructured, it must face the problem of integrating countries as poor and backward as Honduras and as prosperous as Costa Rica.

Political relations with the region are also complicated by Costa Rica. All four other countries are ruled by Right-wing military dictatorships, while Costa Rica is governed by a social democratic regime that abolished the Army 29 years ago. Costa Rica also has a tradition of granting political exile to opponents of the neighbouring regimes, while the generals of Nicaragua, El Salvador, Honduras and Guatemala have achieved such ideological harmony that they now pursue each other's foes. The four dictatorships not only exchange information on the region's insurgency groups, but they also co-ordinate their campaigns against the progressive and influential Roman Catholic priest of the area. Costa Rica attends regional summits to avoid offence, but it is clearly the odd country out.

In contrast to its neighbours, though, Costa Rica under President Oduber has extended its horizons and spread its wings. Sr. Oduber's trip to London was his 31st abroad since he became President in May 1974, while he will be addressing the United Nations General Assembly on October 20. He is also expected to visit Argentina before Christmas. But, despite domestic criticism of his frequent travels—when Spain's King Juan Carlos visited here last month the joke was that the applause was not for the visitor but for the cause, Sr. Oduber was in the country—the President's foreign policy has brought positive results, not only in terms of pride but also by reducing the country's political isolation. Now, for the United States and Western Europe, Costa Rica is not just "another" developing country, but rather one whose model government must be defended and promoted.

## Industrial development

AFTER ABOUT 15 years of steady industrial growth, Costa Rica should be happy with its record—or so one would suppose. But there is a growing body of opinion in the Government and outside, pressing for a sharp change of direction, away from the medium-sized factory and towards smaller units, which are more closely linked to the country's agrarian resources.

Costa Rica is typical of many Third World countries which have thrown open their doors to industrial investment and where, despite impressive growth rates, the sustainability of some kinds of industry is being contested.

In some respects, Costa Rica's industrial development has been conspicuously successful. Industrial exports, for instance, which in 1960 made up only about 3 per cent of the total, have brought their participation up to around 30 per cent. But although the growth of manufacturing activity has helped considerably to bridge the balance of payments, it has not altered the country's basic dependence on the farming sector, especially as a source of employment. And although it has produced a new class of entrepreneurs, the way growth has been encouraged has seen to it that many of their undertakings are inefficient.

### Skilled

Since 1960, Costa Rican industry has increased its output by 7 or 8 per cent a year. With the ranks of skilled managers and workers growing, the momentum looks like continuing. Investment in new companies in the first half of this year, according to Government figures, was 558m. Colones, almost as much as the 580m. Colones invested in the whole of 1976.

The take-off after 1960 was largely due to the foundation of the Central American Common Market, which 10 years ago scrapped almost all tariffs between its member States. Foreign companies have been allowed in without restrictions. Most have been from the U.S. and most of them engaged in making consumer non-durables.

The setting-up of a development agency, CODESA, in 1973, provided a further boost to investment. CODESA financing last year amounted to 1,520m. colones (over \$100m.), including 300m. colones in company share capital. Reorganised substantially last year, the agency is now involved in two sugar mill projects and a cement factory.

Manufactured exports increased by 20 per cent last year—mainly textile fibres, pharmaceuticals, plastics, clothing, and paper products and types Costa leather products in order to the industry is heavily geared to rural areas, the idea appears

not to have filtered down yet. Costa Rica's financial system, controlled by the nationalised banks, is not geared to the small entrepreneur, who usually has to borrow at much greater cost from the privately-run *financieras*.

An improvement in the effectiveness of the industrial sector will depend on stricter mechanisms for selecting new projects and stricter control of company activity. Costa Rica's institution of "bearer share companies" means that it is often impossible even to pin down who is running the show, since share ownership is not registered. The Government made a timid move towards discouraging this institution last year by imposing a 3 per cent tax on companies which situated their share capital in this way, with maximum tax liability set at 20,000 colones.

Further changes in the CodeSA finance agency may also be on the way in order to give it greater muscle in promoting managerial class as having been built up on the basis of "on-deserved earnings," pointing to the under-use of factory capacity and the unjustifiably high prices of finished products.

A far of American peanut butter, with hefty import taxes slapped on, may cost \$3 in a San José grocery. The locally-made product will retail for just a few cents less, whatever the manufacturing cost. Land Rovers have now become prohibitively expensive to import, being subject to about 300 per cent duty, while the locally-assembled version sells for a lot more than it used to cost to ship them in.

Over-capacity in some areas—things like soap and paper—reflects a lack of co-ordination within the regional Common Market, where industrial plans frequently overlap. The market is in any case pretty small for many kinds of industry, and Costa Rica has found itself looking for wider markets and progressively reducing its dependence on its northern neighbours to take its products.

The main argument, however, used by those who urge a change of tack is that much of Costa Rica's industry is dependent on imported raw materials and is therefore out of tune with the agricultural sector, which still employs between two and three times the number—80,000—who work in industry.

Future emphasis is likely to be far more on resource-based industry such as food processing, which already accounts for a large part of manufacturing activity, less geographically concentrated and in smaller units. But while there is a top-level consensus on the need to concentrate on agro-industry—such as processing fruit, fish and meat—and wood and paper products and types Costa leather products in order to the industry is heavily geared to rural areas, the idea appears

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### Bauxite

The aluminium project was originally pegged to the exploitation of bauxite reserves, estimated at 150m. tonnes, one of Costa Rica's two untapped mineral deposits—the other being an as yet unquantified reserve of copper in the Talamanca hills bordering Panama, which Charter Consolidated is interested in mining.

Alcoa, the U.S. aluminium group, look out as option on the bauxite and smelter projects. The Government still wants to go ahead with the smelter, even using imported raw materials, but has little option but to let it be developed as a foreign enclave. The plans would involve building a costly hydro-electric dam at Boruca, and Costa Rica is already engaged in constructing one big dam—curiously situated on the lower slopes of the still-active Arenal volcano.

The total cost of the smelter and power plant is unofficially estimated at around \$1.5bn., and if the 250,000 tonne unit goes ahead it could significantly alter the shape of the Costa Rica economy in the 1980s.

D.W.

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# Tourism begins to develop

RE IS an old narrow-gauge railway that runs from San José through the clouds and down to the Caribbean coast. At an average 14 m.p.h. it winds about miles through fertile hills, along thin ledges and in tortuous circles along the side of volcanic mountain ranges, then suddenly into lowlands and along a fringed coastline.

One end is the European style of the capital, at the tropical heat and Puerto Rico, a place of balconies and peeling paint, where buildings still show signs of former elegance and where the climb around the trees is a main square. Its people are black as San José's are children and grand-children of Jamaican workers when the railway was at the end of the last century.

English has been retained, the bars bear names like "le-tartar" and "Happy". The best hotel, in which is not only Costa Rica's main coffee port and a centre but would also succumb to tourism, is a lengthy water short and is only booked ahead arrival, which starts the afternoon.

tourist industry is on its way out has not arrived, even a few minutes drive through jungle and a cocoa plantation, serious shortage of hotel accommodation on the coast, while there are not many more than 2,000 hotel rooms in the country as a whole.

San José, which has only one really first-class hotel, way out of town, is about to get two new ones, adding 600 rooms between them.

One is being built in conjunction with a Playboy Club, being under way on the other side of the country—the Pacific, at a total cost of about \$6m. In mostly

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## Planned

Club Méditerranée has been planning to set up in an area further down the Pacific coast, and a hotel is planned on the Caribbean at Cahuita, south of Puerto Limón, where the Government has approved a community of American hippies.

But at the moment there is a serious shortage of hotel accommodation on the coast, while there are not many more than 2,000 hotel rooms in the country as a whole.

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not only to increase foreign exchange takings but also to give economic sustenance to one of Costa Rica's poorest regions.

A Mexican company has spent \$175,000 studying a hotel project at Guacamará, and the Mexican Government is expected to collaborate in a \$200m. investment programme there.

The area, accessible from the town of Liberia, which is on local air routes, has deep sea fishing, clear bathing water and abundant animal and plant life. The institute intends to set up a hotel, cabins, a camp site and hunting and horse-riding facilities.

It will have to rely on foreign loans to do so, but hopes to have off parts of the business to private companies once they are set in motion.

Other facilities are being planned on beach sites nearby, and hillside lots are being prepared for private homes. Costa Rica has a growing community of retired Americans and gives them tax exemption if they are fairly well off.

Local air services are being improved and new strips being built. But the national airline, Laca, though friendly and reliable, is in need of new equipment, especially to replace the already ageing BAC 111s it uses on its international services.

This is unlikely to come about unless the airline, profitably and privately run, gets a hefty financial uplift from the Government. Laca and the Government's Institute of Tourism are meanwhile wrestling over the issue of charter flights, which the airline, in contrast to those of neighbouring countries, has long resisted.

The airline's defences are about to be breached, according to Sr. Lara, ten charter companies have applied to the U.S. civil aviation authorities to run flights between the U.S. and Costa Rica, and Laca will presumably have to follow suit.

From October next year a regular run is to be set up from Europe by International Caribbean Transport, carrying German and Swiss holidaymakers on long-range Boeing 707s to Costa Rica via Curaçao. Two weekly charters are also being planned from New York.

Another tourism lure which has met resistance is a project for duty free zones. Commercial associations in San José are vehemently opposing the plan, which they say will in any case be too complex to operate and will open all more doors for corrupt practices, but Sr. Lara is confident that it will go ahead.

Travel publicity is being stepped up in the U.S., where about 40 per cent of visitors come from, and in Europe, and the Government is promoting cheap packages (\$385 for eight days from New York, all included) for the June-to-November period.

San José, which has only one really first-class hotel, way out of town, is about to get two new ones, adding 600 rooms between them.

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## Farming potential still to be tapped

COSTA RICA claims—and not without good reason—to produce the best coffee in the world. And although it belongs only to the middle rank of producers, with the third largest harvest of Central America and about the ninth or tenth in the world, it possesses nothing more valuable at the moment than the red-budded bushes which fill its central valley.

The extraordinary rise in coffee prices which took place up to the middle of this year has meant in this and other countries of the region that coffee-farming, which invaded much of the fertile land in the last century and appeared to have reached the end of its boom cycle, has had its importance suddenly reinstated.

Costa Rica, which two years ago was mainly a banana republic, has gone back to being a coffee republic. In 1975, banana exports, largely in the hands of two big U.S. companies, United Brands and Standard Fruit Company, exceeded coffee sales by over a third. Last year, coffee exports

shot up 46 per cent, to \$142m. This year, coffee exports are already more than double that figure, with sales of \$288.5m, registered up to the middle of September.

Coffee's share of Costa Rica's total foreign exchange earnings increased in the first half of this year to 48 per cent, from 24 per cent, in 1975.

Coffee-farming is, more than any other, the typical activity of Costa Rica, which was colonised by small peasant-farmers and where the majority of the 2m. population still live in the rural areas. Most of the small

farmers in the central valley are now responsible for a third of initial output and a quarter of coffee exports, according to high technical standards, is the Coffee Office in San José.

But the neglect to which produced there and in the

nearby highland region known as the Zona de los Santos.

About one in every ten Costa Ricans depends on coffee for a living. A survey a few years ago counted 32,353 separate coffee plantations, covering a total area of a little more than 200,000 acres. Over 90 per cent of the farms covered less than 5 hectares or 12.4 acres.

The Government has been promoting the formation of co-operatives in order to reduce farmers' costs and in the hope of increasing stagnating yields.

The co-operatives, made up of on average 75 peasant farmers, are now responsible for a third of initial output and a quarter of coffee exports, according to high technical standards, is the Coffee Office in San José.

But the neglect to which produced there and in the

coffee plantations were subject during the slack years before the boom has left lasting damage. The increase in earnings has disguised stagnation in the volume of output. Sales from the 1975-76 crop, at just over 1m. bags, were the lowest for six years, with little variation over that time. And although Costa Rica sold 620,000 bags abroad in the six months from October 1976, to March this year, export volume for the whole year is estimated at slightly below the 1976 level.

More farmers are now tending to move into coffee and other non-annual crops, such as sugar, and into ranching. The coffee plantation area is being extended in the north of the country and, more recently, in the El General valley in the south and in another area close by the Panamanian border.

Bananas—Costa Rica's other main export product—are becoming increasingly the preserve of big companies. A handful of foreign groups have operations covering thousands of acres and dwarfing most locally owned farms. But the banana business is facing serious problems because of transport bottlenecks on both the Atlantic and Pacific coasts.

Sugar earnings have been hit by low world prices, but production increased in the 12 months to September 30 to 190,000 tonnes from 173,000.

Beef production, based both on Indian zebu cattle and European strains, is increasing, particularly in the north, and exports are expected to increase about 6 per cent, to 32,000 tonnes. With continuing curbs on exports to the U.S. and the EEC, and with no new outlets within the Central American community, Costa Rica is pushing its beef elsewhere in the Caribbean. It is seeking to increase its market in Venezuela, and recently sent off a consignment of 20,000 live heifers and 2,000 bulls to Surinam.

A school of animal husbandry is being set up under a British aid scheme in order to improve ranching methods.

In most things except for coffee and bananas, farming in Costa Rica is held back by low technological levels. Efforts are now being made to increase yields per acre and in mechanised farming in areas such as the Guanacaste region in the north, with the aim of increasing the income of small farmers.

The World Bank recently granted an \$18m loan for farm development in the El General valley, including roads, credit schemes and technical assistance, and experiments are being made with new irrigation methods.

Although it is a small country, Costa Rica still has a reserve of potentially good and unused farmland—foreign experts estimate 1m. acres.

But in many areas the soil is being depleted and the land being irrationally used. The depletion is partly caused by an alarming rate of deforestation. The forests, meanwhile are hardly used as a source of income.

Extra funds are now starting to be channelled into the farm sector in order to make greater use of the land available. The land is not only the historical basis of Costa Rica's economy; it is also, still, its greatest resource.

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D.W.

## Costa Rica at a glance

Costa Rica is located in Central America between Nicaragua and Panama, and has a population of 2,017,996 (1 July 1976).

Language: Spanish. However, English is widely used.

Principal City: San José, capital of Costa Rica. Currency: The Costa Rican monetary unit is the "Colon". One U.S. dollar is equivalent to 6.60 colones. Besides Costa Rica's national banks, which handle foreign business, there are numerous international banks in Costa Rica. Major credit cards and travellers' checks are widely accepted.

Government: Costa Rica has been called the most democratic country in the world. It is known for political stability and orderly transition of government. The President is elected by popular vote for a four-year term. Costa Ricans are proud of the fact that they have no army; law and order being maintained by a civilian police force.

History and Ancestry: Discovered by Christopher Columbus in his fourth voyage. Costa Rica became independent in 1821. Costa Ricans are mostly of Spanish and European ancestry with little descent from the pre-Columbian Indian population.

Climate: The annual temperature varies from 20 to 25 degrees C. in San José. Other extremes may be found in the cool mountains or warm sunny beaches. Spring-weight clothing is suggested.

Telephone: Modern automatic dial system featuring international direct-dialling.

Local Transportation: Taxis, rental cars, buses, trains, commercial and charter planes are available at reasonable rates.

Medical Facilities: Costa Rica is proud of its fine, efficient hospitals and medical facilities. Resident physicians are available at all major hotels.

Credit Cards & Travellers Checks: Major credit cards and travellers checks are widely accepted.

Customs Requirements: Personal effects of the traveller, as detailed below, will be considered as baggage:

a. Used clothing.

b. Articles for personal use, such as jewellery, handbags, umbrellas, etc., all used and in quantity proportional to the personal needs of the traveller.

c. Medicines, food for children or ill persons. Medical articles and equipment, health or toilet articles. In quantities adequate for the needs of the traveller. This equipment must be portable and show it is used.

d. Used sporting articles, the baby carriage and toys of travelling children; and a wheel chair if the passenger is disabled.

e. A portable photographic camera and a movie camera with their corresponding accessories all used; up to six rolls of film for each, and a pair of binoculars.

f. A typewriter, a sound recorder, a radio. Art, trade professional or occupational tools and instruments of the traveller, provided they are portable and used. The above does not include full equipment for shops, offices, laboratories, etc.

g. A used portable musical instrument and its accessories.

h. Books and manuscripts, non-commercial photographs and photo-engravings.

i. Five hundred grams of processed tobacco, and three litres of wine or alcoholic beverages. If the traveller is of legal age, and two kilograms of sweets.

j. Those national or previously imported articles, which, having been reported at customs in Costa Rica, when the traveller departed, and being brought back.

k. Hunting weapons and up to two hundred loaded cartridges, including a revolver or pistol, a tent and equipment needed for camping, provided it is proven beyond any doubt that the traveller is a tourist. The entrance of fire-arms and ammunition will be subject to the laws enforced by the country for these objects.

1. Spare tyres which are not mounted on a wheel and inflated may not be imported. For specific information on customs, taxes, please write to: Dirección General de Aduanas (General Customs Bureau), P.O. Box 10,033, San José, Costa Rica.

Citizens of the United Kingdom need not obtain a visa or a tourist card to enter Costa Rica, only having to present an official migratory identification document, a ticket for departure from Costa Rica, and demonstrate that they have funds to support their stay, a minimum of US\$150.00. Such tourists are authorised to remain in the country for a period of 90 days and may obtain authorisation to stay for an additional 90 days.

Transportation to and from Costa Rica: Points of embarkation from the U.S. are Miami, New Orleans, and Los Angeles, with connections to Central and South America, the Caribbean, and the rest of the world. Airlines presently operating to Costa Rica are Laca (national airline), Pan Am, Taca, Sam, Iberia, Vlasa, Sabha and Copa.

Hotels and Resorts: Costa Rica offers a variety of hotel accommodations ranging in price from (U.S.) \$8 to \$86.00 per day, with approximately 80 hotels available. Several hotels offer seminar and convention facilities. Mountain, beach, and fishing resorts are available at reasonable rates. For further information please contact: Costa Rica Hotel Association (Asociación Costarricense de Hoteles y Alhóses), Apdo. 1063, San José, Costa Rica.

Main Attractions: The National Museum with its ancient collection of gold and Indian pottery and jade. Exciting trip to the top of the active Volcans. Colonial ruins in the Orosi Valley. A breathtaking jungle ride from San José to the Caribbean port of Limón. The Indian gold collection at the Costa Rica Central Bank. The National Theatre, an outstanding example of Renaissance architecture. Handicraft centres and Sunday markets. The factory of hand painted oxcarrots at Sarachi. The lagoons of Tortuguero on the Caribbean coast with excellent fishing.

Nightlife: San José offers a great variety of restaurants, night clubs, and discotheques.

Sports: Costa Rica is also known for its variety of sports activities. These include: Soccer, baseball, polo, tennis, golf, squash, archery, and handball, etc. Costa Rica is famous for its spectacular sports fishing. Waterskiing on a lake at an altitude of 3,000 feet or on the Pacific Ocean.

Arts & Crafts: A large variety of arts and crafts are available including art pottery, leatherwork, woodcarvings, hand painted fabrics, gold and silver ornaments, replicas of pre-Columbian gold artifacts.

Beaches: Costa Rica offers two coasts, the Caribbean (Atlantic) with lush tropical vistas, and the Pacific with beautiful virgin beaches on a highly colourful mountain background. Mountains: Costa Rica is world known for its lush rolling hills and mountains offering some of the most breathtaking panoramas in the Americas.

Tourist Assistance & Information: Costa Rica Tourist Board (Instituto Costarricense de Turismo) maintains a strategically located downtown office to assist tourists in making their stay more enjoyable. ICT office location in San José: Central Street, between 4th and 6th Ave., San José, Costa Rica, Phone 23-17-33.

Additional Information in the U.S.: Contact the following Costa Rica Tourist Board (ICT) offices: New York: 630 Fifth Ave., Room 242, New York, N.Y. 10020. Phone: (212) 245-6370. Miami: 28 Biscayne Blvd., Miami, Fla. 33132. Phone: (305) 358-2150 358-2151.

**COSTA RICA** . . . friendly by nature

## Vesco the unwelcome

A RICA'S greatest single Assembly, its own party or even in many a year was public opinion at large. And

Lee Vesco, the fugitive-financier, difficulties, Mr. Vesco can, financier, who has seemed the ideal person to help

charged with looting him out. Mr. Vesco himself, worth of mutual funds, anxious to leave the Bahamas, the ill-fated investors where he felt vulnerable to

services (JOS), an extradition, was only too glad to respond. On June 22, 1973, at the age of 37, the financier took up residence with the legal status of pensioner.

To the horror of much of the country, President Figueres then assumed the role of his defender, arguing that Mr. Vesco was the victim of a witch-hunt in the United States stemming out of Watergate.

And when in 1973 Costa Rican courts rejected an American attempt to extradite the financier on fully justified technical grounds, President Figueres began to suggest that the U.S. did not really want Mr. Vesco for fear that he might involve leading American figures. Just in case, though, Sr. Figueres reformed the country's extradition rules in the so-called Vesco Law of November, 1973, making it virtually impossible to extradite the financier.

But while Don Pepe proudly boasted of his relationship with Mr. Vesco, it was never clear to what extent other politicians had also become entangled in the financier's

adventures. In the campaign for the 1974 elections, when Sr. Figueres' long-time disciple, Daniel Oduber, was the winner, the so-called Vesco issue was noticeably absent from the campaign debates. In an interview

this spring with The New Republic magazine, Don Pepe claimed that both Sr. Oduber and his main opponent, Dr. Fernando Trejos Escalante, had received campaign contributions from Vesco-backed companies, although the incumbent President said these funds were returned when their source was discovered.

Mr. Vesco's complex and secretive corporate and financial methods—familiar to those who followed his "rescue" of JOS—make it almost impossible to identify his interests in Costa Rica, with rumours and speculation probably "giving" him credit for more than he actually owns. His principal holding company is Interamerican

Capital SA, which, according to local Vesco-watchers, owns the Panamanian-registered holding company, Numeros SA, which in turn controls separate holding companies for Mr. Vesco's companies in the Bahamas, Panama, and Costa Rica. The financier is believed to own some 35 companies in the country but, since new companies are constantly being formed and others disappearing, this figure is less than authoritative. Certainly, Mr. Vesco owns several large estates—he even recently took over some of Don Pepe's land in lieu of debt payments—and is also involved in finance companies, communications, hotels and restaurants. Some of his interests, however, as with the newspaper Excelsior, are simply through loans.

During the past three years, Mr. Vesco has never been successful in adopting a lower profile, with his name sometimes staying out of the public eye for months on end. Sr. Figueres' controversial interview in The New Republic this spring, however, reopened the issue, with President Oduber urging the financier to leave the country and the Legislative Assembly ordering an investigation into charges of illegal campaign payments. Mr. Vesco even appeared before the Assembly Committee looking into the case, although his final report was conveniently inconclusive.

Whatever the result of the elections, however, both leading candidates seem to recognize the need for a reassertion of the traditionally high moral standards of Costa Rican public life. "There has been a steady erosion of Government morality," Sr. Carazo noted. "The Government has to recover credibility in the eyes of the people." Sr. Monge, on the other hand, plans specific measures to stop the "moral deterioration," including greater alertness for cases of conflict of interest involving civil servants and declarations of wealth by Ministers on entering and leaving office. "I'm going to be indefatigable with members of my Government in this area," he said.

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A.R.



Country	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050
Japan	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0
Germany	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0
France	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0
Italy	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0
Spain	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0
Sweden	15.0	15.5	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0
United Kingdom	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0
United States	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0
Canada	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0
Poland	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0
China	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0
India	21.0	21.5	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0
South Africa	22.0	22.5	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0
South Korea	23.0	23.5	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0	32.5	33.0
Belgium	24.0	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0	32.5	33.0	33.5	34.0
Portugal	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0	32.5	33.0	33.5	34.0	34.5	35.0
Spain	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0	32.5	33.0	33.5	34.0	34.			

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